



Linda S. Adams  
Secretary for Environmental  
Protection

# California Regional Water Quality Control Board

## San Francisco Bay Region

1515 Clay Street, Suite 1400, Oakland, CA 94612  
(510) 622-2300 • Fax (510) 622-2460  
<http://www.waterboards.ca.gov/sanfranciscobay>



Arnold Schwarzenegger  
Governor

**ORDER NO. R2-2006-0067**  
**NPDES NO. CA0038776**

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

**Table 1. Discharger Information**

Discharger	City of Pacifica
Name of Facility	Calera Creek Water Recycling Plant
Facility Address	700 Coast Highway
	Pacifica, CA 94044
	San Mateo County

The Discharger is authorized to discharge from the following discharge point as set forth below:

**Table 2. Discharge Location**

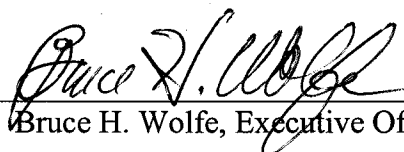
Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	tertiary treated wastewater	37°, 36', 53" N	122°, 29', 16" W	Calera Creek

**Table 3. Administrative Information**

This Order was adopted by the Regional Water Board on:	October 11, 2006
This Order shall become effective on:	November 1, 2006
This Order shall expire on:	October 31, 2011
The U.S. Environmental Protection Agency (USEPA) and the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23 of the California Code of Regulations not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order Nos. 99-066 and R2-2002-0088 are rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted therein, the Discharger shall comply with the requirements in this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 11, 2006.

  
Bruce H. Wolfe, Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
REGION 2, SAN FRANCISCO BAY REGION**

ORDER NO. R2-2006-0067  
NPDES NO. CA0038776

**Table of Contents**

I. Facility Information .....	1
II. Findings.....	1
III. Discharge Prohibitions.....	5
IV. Effluent Limitations and Discharge Specifications .....	6
V. Receiving Water Limitations .....	8
VI. Provisions.....	9
A. Standard Provisions.....	9
B. Monitoring and Reporting Program Requirements .....	10
C. Special Provisions .....	10
VII. Compliance Determination .....	17

**List of Tables**

Table 1. Discharger Information.....	1
Table 2. Discharge Location.....	1
Table 3. Administrative Information .....	1
Table 4. Facility Information.....	1
Table 5. Basin Plan Beneficial Uses .....	3
Table 6. Effluent Limitations.....	6
Table 7. Interim Effluent Limitations .....	8

**List of Attachments**

Attachment A – Definitions .....	A-1
Attachment B – Topographic Maps.....	B-1
Attachment C – Flow Schematic .....	C-1
Attachment D – Federal Standard Provisions.....	D-1
Attachment E – Monitoring and Reporting Program (MRP).....	E-1
Attachment F – Fact Sheet.....	F-1
Attachment G .....	G-1

The following documents, which make up Attachment G, are available on-line at  
<http://www.waterboards.ca.gov/sanfranciscobay/Download.htm>

- Letter of August 6, 2001 from the Regional Water Board to all Dischargers, Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy

- Resolution 74-10, Policy Regarding Waste Discharger's Responsibility to Develop and implement Contingency Plans to Assure Continuous Operation of facilities for the Collection, Treatment, and Disposal of Waste.
- Self-Monitoring Program Part A (August 1993)
- Standard Provisions and Reporting Requirements for NPDES Surface Water Dischargers (August 1993)

## I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

**Table 4. Facility Information**

Discharger	City of Pacifica
Name of Facility	Calera Creek Water Recycling Plant
Facility Address	700 Coast Highway
	Pacifica, CA 94044
	San Mateo County
Facility Contact, Title, and Phone	David Gromm, Plant Manager, (650) 738-4663
Mailing Address	170 Santa Maria Avenue, Pacifica, CA 94044
Type of Facility	POTW
Facility Design Flow	4.0 MGD (average dry weather capacity)
	7 MGD (peak dry weather capacity)
	20 MGD (peak wet weather capacity)

## II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter, the Regional Water Board), finds:

- A. **Background.** The City of Pacifica (hereinafter, the Discharger) is currently discharging under Order No. 99-066, as amended by Order No. R2-2002-0088, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038776. The Discharger submitted a Report of Waste Discharge (ROWD), dated May 05, 2004, and applied for renewal of its NPDES permit to discharge treated wastewater from the Calera Creek Water Recycling Plant. The application was deemed complete on January 10, 2006, pursuant to a Regional Water Board letter extending the Requirements of Orders 99-066 and R2-2002-0088 until renewal of the permit.
- B. **Facility Description.** The Discharger owns and operates the Calera Creek Water Recycling Plant (Plant), which provides tertiary treatment of domestic wastewater from the City of Pacifica as well as the sanitary sewage collection system. (Any references to the Plant in this document, shall also include the collection system.)

The system collects all sewage from within the city boundaries. The City of Pacifica has nine different neighborhoods with a population of 39,000. There are 82 miles of gravity sewers and 4.2 miles of force main sewer pipes. Interceptor sewers are 6" and 8" and trunk sewers are 10" and 24". There are five sewage pumps stations with a total pump capacity of 34, 000 gallons per minute that deliver wastewater to the Plant for treatment.

Treated wastewater is discharged over a cascade aerator at Discharge Point 001 to Calera Creek, a water of the United States. From the point of discharge, Calera Creek flows approximately 0.52 miles to the Pacific Ocean through a restored wetland, which also drains intermittently and directly to the Pacific Ocean. The water surface elevation of the discharge at the cascade aerator is



approximately 2 to 3 feet above the water surface elevation of Calera Creek during a 100-year storm event (i.e., at a creek flow of 800 cfs). The Plant has an average dry weather treatment capacity of 4.0 million gallons per day (MGD) and a peak dry weather capacity of 7 MGD, and was designed to treat a peak hourly wet weather flow of 20 MGD. Between 2001 and 2003, the Plant treated an average daily flow of 3.63 MGD. Attachment B to this Order is a topographic map showing the location of the facility. Attachment C is a flow schematic of the facility.

- C. **Legal Authorities.** This Order is issued pursuant to Federal Clean Water Act CWA Section 402 and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and the California Water Code (CWC) Chapter 5.5, Division 7. It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under CWA Section 402.
- D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the ROWD, through monitoring and reporting programs, and through special studies. Attachments A through G, which contain background information and rationale for requirements of the Order, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.
- E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with CWC Section 13389.
- F. **Technology-Based Effluent Limitations.** NPDES regulations at 40 CFR 122.44 (a) require, permits to include applicable technology-based limitations and standards. This Order includes limitations that meet the technology-based secondary treatment standards for POTWs. A detailed discussion of development of technology-based effluent limitations is included in the Fact Sheet (Attachment F).
- G. **Water Quality-Based Effluent Limitations.** NPDES regulations at 40 CFR 122.44 (d) require that, where reasonable potential (RP) to cause, or contribute, to an exceedance of applicable water quality standards exists, permits are to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives (WQOs) have not been established, 40 CFR 122.44 (d) specifies that WQBELs may be established using USEPA criteria guidance under CWA Section 304 (a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, including site specific applicability, or an indicator parameter. A detailed discussion of development of WQBELs is included in the Fact Sheet (Attachment F).
- H. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter, the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan does not specifically identify beneficial uses for Calera Creek, but describes the following beneficial uses for inland streams that are applicable to Calera Creek.

**Table 5. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Calera Creek	<ul style="list-style-type: none"> <li>• Agricultural Supply (AGR)</li> <li>• Cold Freshwater Habitat (COLD)</li> <li>• Freshwater Replenishment (FRSH)</li> <li>• Groundwater Recharge (GWR)</li> <li>• Industrial Service Supply (IND)</li> <li>• Fish Migration (MIGR)</li> <li>• Industrial Process Supply (PRO)</li> <li>• Water Contact Recreation (REC1)</li> <li>• Non-contact Water Recreation (REC2)</li> <li>• Fish Spawning (SPWN)</li> <li>• Warm Freshwater Habitat (WARM)</li> <li>• Wildlife Habitat (WILD)</li> </ul>

The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

Requirements of this Order specifically implement the Basin Plan.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992 and amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. The CTR was adopted on May 18, 2000 and amended on February 13, 2001 which incorporated the NTR criteria that were applicable in California. These rules include water quality criteria (WQC) for priority pollutants that are applicable to this discharge.
- J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans with the exception of the provisions on alternate test procedures for individual discharges that have been approved by the USEPA Regional Administrator. The alternate test procedure provision was effective on May 22, 2000. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Requirements of this Order implement the SIP.
- K. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and

comply with CTR based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.

This Order includes a compliance schedule and interim effluent limitations for bis(2-ethylhexyl) phthalate and copper. Discussion of the basis for the compliance schedule and interim effluent limitation is included in the Fact Sheet (Attachment F).

- L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on Biological Oxygen Demand (BOD) or Carbonaceous Biochemical Oxygen Demand (CBOD), Total Suspended Solids (TSS), Oil and Grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations and have been in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F.

The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically Arsenic, Cadmium, Chromium (VI), Copper (fresh water), Lead, Nickel, Silver (1-hour), Zinc) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2).

Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16.
- O. **Anti-Backsliding Requirements.** CWA Sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in detail in the Fact Sheet (Attachment F), the limitations and conditions of this Order are consistent with all anti-backsliding requirements of the CWA and federal regulations.
- P. **Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWA Sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E. It may be amended by the Executive Officer pursuant to USEPA regulation 40CFR 122.62, 122.63 and 124.5.
- Q. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, and V.B of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- S. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F of this Order).
- T. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

### III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described by this Order is prohibited.

- B. The bypass of untreated or partially treated wastewater to waters of the State is prohibited, except as described at 40 CFR 122.41 (m) (4) and in A.12 of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (Attachment G).
- C. Discharge rates (MGD) shall not exceed the design capacities of the treatment facility, described by the Discharger as 4.0 MGD (average dry weather capacity determined over three consecutive dry weather months each year).
- D. Any sanitary sewer overflow that results in a discharge of untreated or partially treated waste water to waters of the United States is prohibited.

#### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

##### A. Effluent Limitations – Discharge Point 001

##### 1. Final Effluent Limitations – Discharge Point 001

- a. The discharge of tertiary treated wastewater to Calera Creek shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location E-001 as described in the attached Monitoring and Reporting Program (Attachment E).

**Table 6. Effluent Limitations**

Parameter <sup>[3]</sup>	Units	Final Effluent Limits		
		Daily Maximum	Monthly Average	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/l	20	10	---
Total Suspended Solids (TSS)	mg/l	20	10	---
Oil and Grease	mg/l	10	5	---
Turbidity	NTU	---	---	10
Ammonia-Nitrogen (NH <sub>3</sub> -N)				---
Dry Season (June – Sept.)	mg/l	5	2	---
Wet Season (Oct. – May)	mg/l	10	5	---
Copper	µg/l	16 <sup>[2]</sup>	10 <sup>[2]</sup>	---
Lead	µg/l	6.0	3.2	---
Mercury	µg/l	0.046	0.017	---
Cyanide	µg/l	7.8	4.5	---
Bis(2-ethylhexyl)phthalate	µg/l	15 <sup>[1]</sup>	6.0 <sup>[1]</sup>	---

<sup>[1]</sup> Interim limitations for bis(2-ethylhexyl) phthalate shall remain in effect until May 17, 2010, or until the Water Board amends the limitation based on additional information. The final WQBELs shall become effective on May 18, 2010. <sup>[2]</sup> Final limits for copper shall become in effect on November 1, 2008. <sup>[3]</sup> All analyses shall be performed using current U.S. EPA approved methods, or equivalent methods approved in writing by the Executive Officer.

A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. As outlined in Section 2.4.5 of the SIP, the table

below indicates the Minimum Level (ML) upon which the Reporting Level is based for compliance determination purposes. In addition, in order to perform reasonable potential analysis for future permit reissuance, the Discharger shall use methods with MLs lower than the applicable water quality objectives or water quality criteria. A Minimum Level is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes and processing steps have been followed.

Constituent	Minimum Level, µ/l
Copper	2
Lead	0.5
Mercury	0.0005
Cyanide	5
Bis(2-ethylhexyl)phthalate	5

- b. **85 Percent Removal:** The arithmetic mean of the BOD<sub>5</sub> and TSS values, by concentration, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of influent samples collected during the same month.
- c. **pH:** The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
- d. **Fecal Coliform Bacteria:**
  - (1) The geometric mean value of the last five samples for fecal coliform density shall not exceed a Most Probable Number (MPN) of fecal coliform bacteria of 200 MPN/100 ml; and
  - (2) The 90<sup>th</sup> percentile value of the last ten samples shall not exceed a fecal coliform bacteria level of 400 MPN/100 ml.
- e. **Whole Effluent Acute Toxicity:** Representative samples of the discharge at Discharge Point 001 shall meet the following limits for acute toxicity. Compliance with these limits shall be achieved in accordance with Section V of the attached MRP (Attachment E):
  - (1) Acute toxicity of effluent limits shall be evaluated by measuring survival of test organisms exposed to 96-hour flow through bioassays.
  - (2) All bioassays shall be performed according to 40 CFR 136, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (the 5<sup>th</sup> or more recent edition. Exceptions may be granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).)
  - (3) The survival of bioassay test organisms in 96-hour flow-through bioassays of undiluted effluent shall be:

- (a) An eleven (11)-sample median value of not less than 90 percent survival; and
  - (b) An eleven (11)-sample 90<sup>th</sup> percentile value of not less than 70 percent survival.
- (4) These acute toxicity limits are further defined as follows:
- (a) 11-sample median limit: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.
  - (b) 90<sup>th</sup> percentile limit: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also show less than 70 percent survival.

## 2. Interim Effluent Limitations

The following interim effluent limitations for bis(2-ethylhexyl)phthalate and copper shall become effective on the effective date of this Order and apply in lieu of the corresponding final effluent limitations specified for the same parameter in IV.A.1.a of this Order until the effective date of the final effluent limits for the corresponding parameter.

**Table 7. Interim Effluent Limitations**

Pollutant	Units	Daily Maximum
bis(2-ethylhexyl) phthalate	µg/L	21
Copper	µg/L	16

### B. Land Discharge Specifications

Not Applicable.

### C. Reclamation Specifications

Not Applicable.

## V. RECEIVING WATER LIMITATIONS

### A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Calera Creek:

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited microscopic particulate matter or foam in concentrations that cause nuisance or adversely affect beneficial uses;

- b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  - c. Alterations of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and
  - e. Toxic or other deleterious substances to be present in concentrations or quantities, which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharges shall not cause the following limits to be exceeded in waters of the State at any one place within one foot of the water surface:

- a. Dissolved Oxygen: 7.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharges shall not cause further reduction in ambient dissolved oxygen concentrations.

- b. Dissolved Sulfide: Natural background levels

- c. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH by more than 0.5 Standard Units.

#### B. Groundwater Limitations

Not Applicable.

### VI. PROVISIONS

#### A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements, August 1993* (Attachment G), including any amendments thereto. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply. Duplicative requirements in the federal Standard Provisions in VI.A.1.2 above (Attachment D) and the regional Standard Provisions (Attachment G) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.



## **B. Monitoring and Reporting Program Requirements**

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order. The Discharger shall also comply with the requirements contained in Self-Monitoring Program, Part A, August 1993 (Attachment G)

## **C. Special Provisions**

**1. Reopener Provisions.** The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances:

- a. If present or future investigations demonstrate that the discharge governed by this Order will, or cease to, have adverse impacts on water quality and/or beneficial uses of the receiving waters.
- b. As new or revised WQOs come into effect for surface waters of the State (whether statewide, regional, or site-specific.) In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs, TMDLs, or as otherwise permitted under Federal regulations governing NPDES permit modifications.
- c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified.
- d. An administrative or judicial decision on a separate NPDES permit or WDR that addresses requirements similar to this discharge; and
- e. As authorized by law.

The Discharger may request permit modification based on b, c, d, and e above. The Discharger shall include in any such request an antidegradation and anti-backsliding analysis.

**2. Special Studies, Technical Reports and Additional Monitoring Requirements**

**a. Wetlands Monitoring.**

The Discharger shall continue to comply with applicable provisions of California Coastal Commission Development Permit Nos. 1-95-40 (granted on January 11, 1996) and 1-95-59 (granted on February 7, 1996) pertaining to wetlands monitoring.

**b. Characterization of Receiving Water and Effluent for Toxic Pollutants.**

The Discharger shall continue to monitor and evaluate receiving water and the discharge from Discharge Point 001 (measured at M-001) for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001 Letter, according to the sampling frequency specified in the attached Monitoring and Reporting Program (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board's August 6, 2001 Letter under "Effluent Monitoring

for Major Discharger” and “Receiving Water Monitoring for Dischargers to Upland Freshwater and Streams.”

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of the increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This may be satisfied through identification of these constituents as “Pollutants of Concern” in the Discharger’s Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

**c. Chronic Toxicity Screening**

The Discharger shall perform Chronic Toxicity Screening Phase study as described in Appendix E-1 and E-2 of the Monitoring and Reporting Program (Attachment E). The Discharger shall conduct this study anytime during the term of this Order but no later than 180 days prior to the expiration date, and shall submit a final report describing the results with the application for permit reissuance.

**d. Translator Special Study**

The SIP, Section 1.4.1, allows the Discharger to conduct a site-specific translator study and submit the proposed translators to the Water Board within two years of the permit reissuance. Site specific translators can be developed from field data by either direct determination of the fraction dissolved, or by development of a site-specific partition coefficient that relates the fraction of dissolved to ambient background conditions such as pH, suspended load, or organic carbon. The final report with the proposed translators and all data and calculations used to derive the translators shall be submitted within eighteen (18) months of the effective date of this permit. If the Executive Officer finds the results to be acceptable, he or she may bring an item for Water Board consideration to reopen the permit and may conduct a new RPA and calculate new effluent limits for applicable metals using the translators.

**3. Best Management Practices and Pollution Minimization Program**

- a. The Discharger shall continue to implement and improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to reduce pollutant loadings of bis(2-ethylhexyl)phthalate to the treatment plant and therefore to the receiving waters.
- b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than August 31<sup>st</sup> of each calendar year. For those agencies choosing to submit earlier in the year, the report shall cover the preceding 12 months two months prior to the submittal date. As an example, a report submitted on June 30, shall cover the preceding

12 months ending in April. Each annual report shall include at least the following information:

- (1) A brief description of its treatment plant, treatment plant processes and service area.
- (2) A discussion of the current pollutants of concern. Periodically, the Discharger shall analyze its own situation determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
- (3) Identification of sources for the pollutants of concern. This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger should also identify sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.
- (4) Identification of tasks to reduce the sources of the pollutants of concern. This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
- (5) Outreach to employees. The Discharger shall inform its employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input to the program.
- (6) Continuation of Public Outreach Program. The Discharger shall prepare a public outreach program to communicate pollution minimization measures to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.
- (7) Discussion of criteria used to measure Program's and tasks' effectiveness. The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Minimization Program. This discussion shall include of the specific criteria used to measure the effectiveness of each of the tasks in item b (3), b (4), b (5), and b (6).
- (8) Documentation of efforts and progress. This discussion shall detail all of the Discharger's activities in the Pollution Minimization Program during the reporting year.
- (9) Evaluation of Program's and tasks' effectiveness. The Discharger shall use the criteria established in b (2) to evaluate the Program's and tasks' effectiveness.

- (10) Identification of specific tasks and time schedules for future efforts. Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks to more effectively reduce the amount of pollutants to the treatment plant and subsequently its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling that a priority pollutant is present in the effluent above an effluent limitation and either:

- (1) A sample result is reported as DNQ and the effluent limitation is less than the RL;  
or
- (2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. If triggered by the reasons in c. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- (1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;
- (2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;
- (3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- (4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
- (5) Inclusion of the following items for the reportable priority pollutant(s) in the annual report required by 3.b. above:
  - (i) All Pollutant Minimization Program monitoring results for the previous year;
  - (ii) A list of potential sources of the reportable priority pollutant(s);
  - (iii) A summary of all actions undertaken pursuant to the control strategy; and

(iv) A description of actions to be taken in the following year.

**4. Technical Reports – bis(2-ethylhexyl)phthalate**

To achieve compliance with final effluent limitations for bis(2-ethylhexyl)phthalate by May 18, 2010, the Discharger shall provide updates in its annual pollutant minimization program reports that describe the Discharger's efforts, over the preceeding year and future efforts planned, to ensure compliance. The Discharger shall also conduct a study to ensure that future laboratory sampling, sample handling, and sample analysis accurately and precisely represents the Discharger's final effluent. The study will include ultraclean sampling and analysis methods. If the phthalate is found to have been introduced only by laboratory sampling and analysis procedures, and the source is eliminated, Regional Water Board staff may re-evaluate the reasonable potential for this constituent.

**5. Construction, Operation and Maintenance Specifications**

**a. Wastewater Facilities, Review and Evaluation, and Status Reports**

- (1) The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.
- (2) The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a.(1) above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.
- (3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects.

**b. Operations and Maintenance Manual (O&M), Review and Status Reports**

- (1) The Discharger shall maintain an O&M Manual as described in the findings of this Order for the Discharger's wastewater facilities. The O&M Manual shall be maintained in usable condition and be available for reference and use by all applicable personnel.
- (2) The Discharger shall regularly review, revise, or update, as necessary, the O&M Manual(s) so that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in

treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

- (3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its operations and maintenance manual.

**c. Contingency Plan, Review and Status Reports**

- (1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (Attachment G) and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a Contingency Plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
- (2) The Discharger shall regularly review and update, as necessary, the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.
- (3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its Contingency Plan.

**6. Special Provisions for Municipal Facilities (POTWs Only)**

**a. Pretreatment Program**

N/A

**b. Sludge Management Practices Requirements**

- (1) All biosolids generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR §503. If the Discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR §503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board should be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.

- (2) Sludge treatment, storage and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
- (3) The Discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
- (4) The discharge of biosolids shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.
- (5) The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
- (6) For sludge that is applied to the land, placed on a surface disposal site, or fired in a biosolids incinerator as defined in 40 CFR §503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR §503, postmarked February 15 of each year, for the period covering the previous calendar year.
- (7) Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR §258. In the annual self-monitoring report, the Discharger shall include the amount of sludge disposed of and the landfill(s) to which it was sent.
- (8) Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.
- (9) Sludge Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (**Attachment G**), apply to sludge handling, disposal and reporting practices.
- (10) The Regional Water Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

**c. Sanitary Sewer Overflows and Sewer System Management Plan**

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharge must properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2), and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Collection System

Agencies (Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigation sanitary sewer overflows. Implementation of the General Collection System WDR requirements for proper operation and maintenance and mitigation of spill will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General Collection System WDR will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs) as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. Until the statewide on-line reporting system becomes operational, the Discharger shall report sanitary sewer overflows electronically according to the Regional Water Board's SSO reporting program.

## **VII. COMPLIANCE DETERMINATION**

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

### **A. General**

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the Monitoring and Reporting Program and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

### **B. Multiple Sample Data**

When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" DNQ or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.



## ATTACHMENT A – DEFINITIONS

**Arithmetic Mean ( $\mu$ )**, also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

**Average Monthly Effluent Limitation (AMEL)**: the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Average Weekly Effluent Limitation (AWEL)**: the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

**Bioaccumulative** pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

**Carcinogenic** pollutants are substances that are known to cause cancer in living organisms.

**Coefficient of Variation (CV)** is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

**Daily Discharge**: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

**Detected, but Not Quantified (DNQ)** are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

**Dilution Credit** is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

**Effluent Concentration Allowance (ECA)** is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of

variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bays** means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

**Estimated Chemical Concentration** is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

**Estuaries** means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

**Inland Surface Waters** are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

**Instantaneous Maximum Effluent Limitation:** the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

**Instantaneous Minimum Effluent Limitation:** the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

**Maximum Daily Effluent Limitation (MDEL)** means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

**Median** is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements ( $n$ ) is odd, then the median =  $X_{(n+1)/2}$ . If  $n$  is even, then the median =  $(X_{n/2} + X_{(n/2)+1})/2$  (i.e., the midpoint between the  $n/2$  and  $n/2+1$ ).

**Method Detection Limit (MDL)** is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

**Minimum Level (ML)** is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

**Mixing Zone** is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

**Not Detected (ND)** are those sample results less than the laboratory's MDL.

**Ocean Waters** are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

**Persistent** pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

**Pollutant Minimization Program (PMP)** means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

**Pollution Prevention** means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

**Reporting Level (RL)** is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed.

For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

**Satellite Collection System** is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

**Source of Drinking Water** is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

**Standard Deviation ( $\sigma$ )** is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

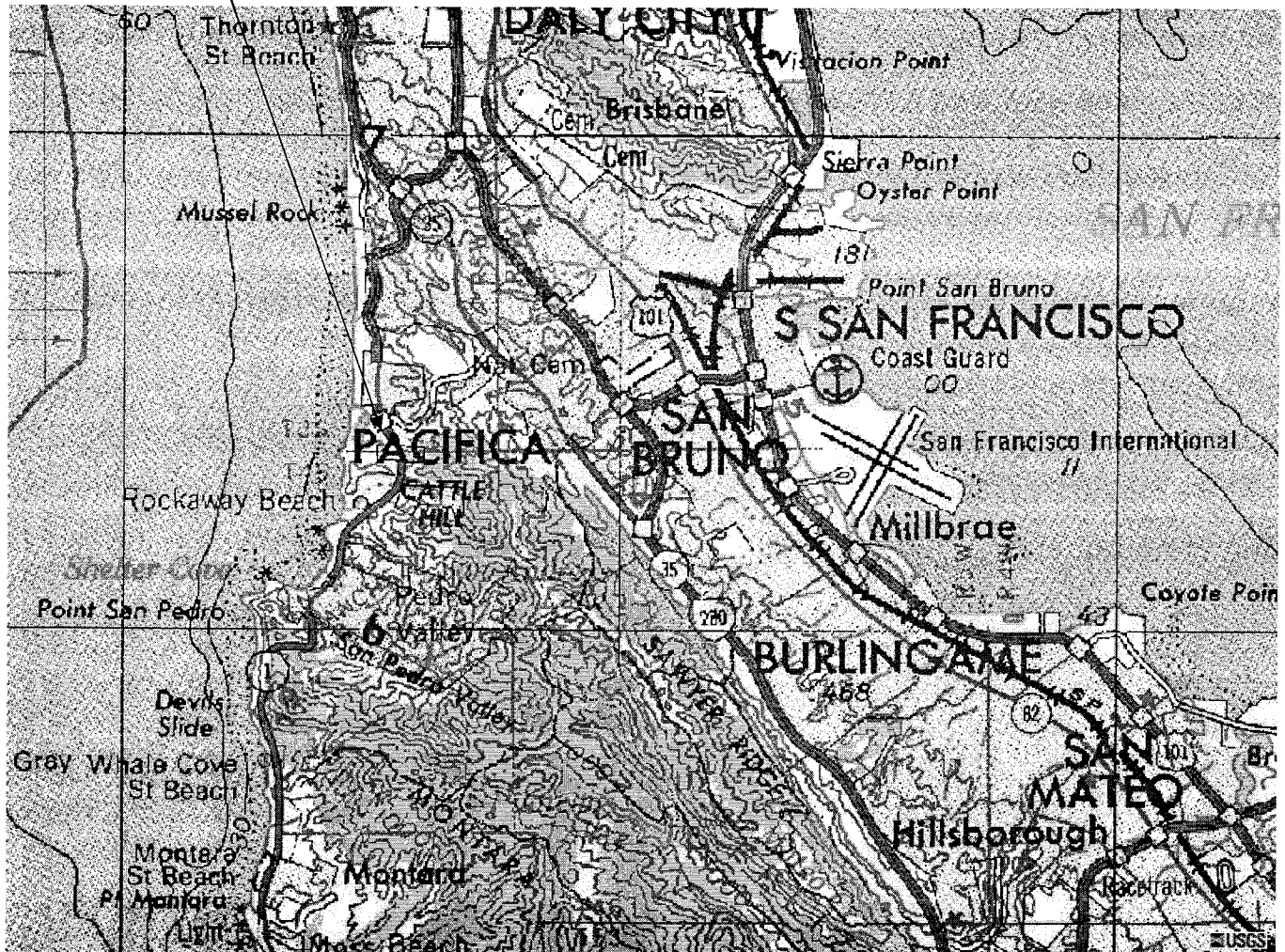
$\mu$  is the arithmetic mean of the observed values; and

n is the number of samples.

**Toxicity Reduction Evaluation (TRE)** is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

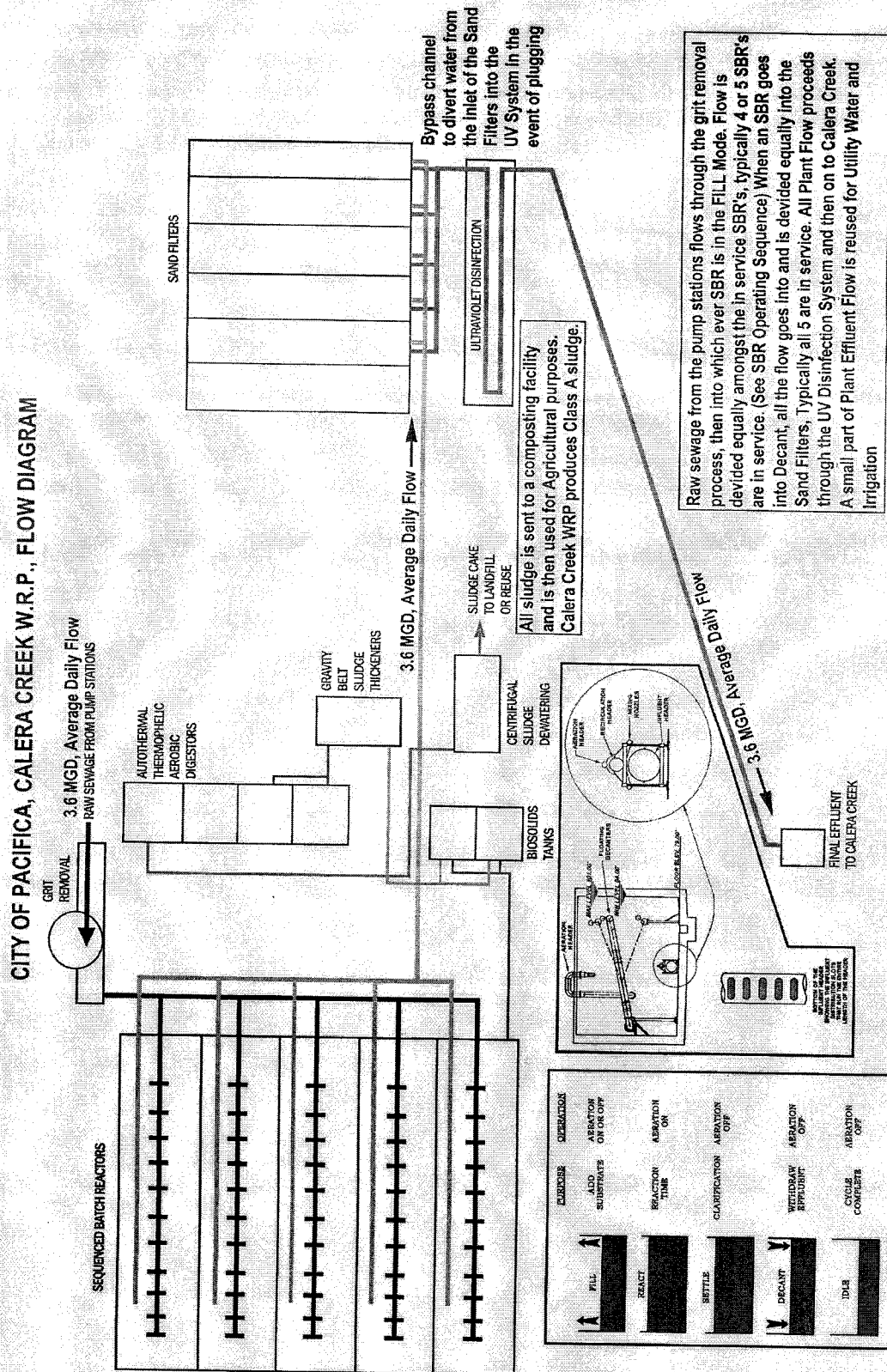
## ATTACHMENT B – TOPOGRAPHIC MAPS

Calera Creek Water Recycling Plant





# ATTACHMENT C – FLOW SCHEMATIC







## **ATTACHMENT D – FEDERAL STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [40 CFR §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 CFR §122.41(a)(1)].

#### **B. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [40 CFR §122.41(c)].

#### **C. Duty to Mitigate**

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [40 CFR §122.41(d)].

#### **D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [40 CFR §122.41(e)].

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges [40 CFR §122.41(g)].
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [40 CFR §122.5(c)].

## **F. Inspection and Entry**

The Discharger shall allow the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [40 CFR §122.41(i)] [CWC 13383(c)]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

## **G. Bypass**

### **1. Definitions**

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
- b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [40 CFR §122.41(m)(2)].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];
  - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of

equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and

- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
  - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
  - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

#### H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR §122.41(n)(1)].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];
  - b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and

- d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [40 CFR §122.41(f)].

### B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [40 CFR §122.41(b)].

### C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [40 CFR §122.41(l)(3)] [40 CFR §122.61].

## III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

## IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].

**B. Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].

**C. Claims of confidentiality for the following information will be denied [40 CFR §122.7(b)]:**

1. The name and address of any permit applicant or Discharger [40 CFR §122.7(b)(1)]; and
2. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

**V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information**

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, SWRCB, or USEPA copies of records required to be kept by this Order [40 CFR §122.41(h)] [CWC 13267].

**B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [40 CFR §122.41(k)].
2. All permit applications shall be signed as follows:
  - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit

application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [40 CFR §122.22(a)(1)];

- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or
  - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    - a. The authorization is made in writing by a person described in paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
    - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and
    - c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [40 CFR §122.22(b)(3)].
  4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].
  5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

submitting false information, including the possibility of fine and imprisonment for knowing violations" [40 CFR §122.22(d)].

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [40 CFR §122.41(l)(5)].

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR §122.41(l)(6)(i)].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR §122.41(l)(6)(ii)]:
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(A)].
  - b. Any upset that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(B)].

- c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

#### **F. Planned Changes**

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [40 CFR §122.41(l)(1)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [40 CFR §122.41(l)(1)(ii)].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [40 CFR §122.41(l)(1)(iii)].

#### **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [40 CFR §122.41(l)(2)].

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [40 CFR §122.41(l)(7)].

#### **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [40 CFR §122.41(l)(8)].



## VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [40 CFR §122.41(a)(2)] [CWC 13385 and 13387].
- B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [40 CFR §122.41(a)(3)].
- C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR §122.41(j)(5)].
- D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon

conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **A. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [40 CFR §122.42(a)]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(1)]:
  - a. 100 micrograms per liter ( $\mu\text{g/L}$ ) [40 CFR §122.42(a)(1)(i)];
  - b. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter ( $\text{mg/L}$ ) for antimony [40 CFR §122.42(a)(1)(ii)];
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(1)(iv)].
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(2)]:
  - a. 500 micrograms per liter ( $\mu\text{g/L}$ ) [40 CFR §122.42(a)(2)(i)];
  - b. 1 milligram per liter ( $\text{mg/L}$ ) for antimony [40 CFR §122.42(a)(2)(ii)];
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(2)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

### **B. Publicly-Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Regional Water Board of the following [40 CFR §122.42(b)]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [40 CFR §122.42(b)(1)]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [40 CFR §122.42(b)(2)].
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [40 CFR §122.42(b)(3)].



## Attachment E – Monitoring and Reporting Program

### Table of Contents

Attachment E – Monitoring and Reporting Program.....	2
I. General Monitoring Provisions.....	2
II. Monitoring Locations.....	3
III. Influent Monitoring Requirements .....	4
IV. Effluent Monitoring Requirements .....	4
V. Whole Effluent Toxicity Testing Requirements .....	5
VI. Land Discharge Monitoring Requirements.....	6
VII. Reclamation Monitoring Requirements.....	6
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater .....	6
IX. Other Monitoring Requirements .....	7
X. Reporting Requirements .....	7

### List of Tables

Table E-1. Test Methods and Minimum Levels for Pollutants with Reasonable Potential.....	3
Table E-2. Monitoring Station Locations .....	3
Table E-3. Plant Influent Monitoring.....	4
Table E-4. City of Pacifica Common Outfall Effluent Monitoring (E-001).....	5
Table E-5. City of Pacifica Receiving Water Monitoring (C-1, C-2, C-3, C-4).....	6
Table E-6. Monitoring Period and SMR Due Date.....	8

### List of Appendices

Appendix E-1. Chronic Toxicity.....	11
Appendix E-2. Summary of Toxicity Test Species Requirements .....	13

## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. CWC Sections 13267 and 13383 also authorize the Regional Water Quality Control Board to require technical and monitoring reports. This Program establishes monitoring and reporting requirements which implement the federal and California regulations.

### I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with the Monitoring and Reporting Program for this Order as adopted by the Regional Water Board, and with all of the Self-Monitoring Program, Part A, adopted August 1993 (SMP). Both may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the Monitoring and Reporting Program and the Self Monitoring Program, the former prevails.
- B. Sampling is required during the entire year when discharging. All analyses shall be conducted using current EPA methods, or methods that have been approved by the EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board's Quality Assurance Program.
- C. Sampling and analysis of additional constituents is required pursuant to Table 1 of the Regional Water Board's August 6, 2001 Letter titled Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy (**Attachment G**).
- D. *Minimum Levels.* For compliance and reasonable potential monitoring, analyses shall be conducted using the commercially available and reasonably achievable detection levels that are lower than the WQOs/WQC or the effluent limitations, whichever is lower. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L approximately equal to parts per billion (ppb).

Table E-1 lists the test method the Discharger may use for compliance and reasonable potential monitoring for the pollutants with effluent limits.

**Table E-1. Test Methods and Minimum Levels for Pollutants with Reasonable Potential**

CTR #	Constituent	Types of Analytical Methods [a] Minimum Levels (µg/L)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAA	DCP
6	Copper								0.5	2			
7	Lead								0.5	2			
8	Mercury [b]								0.0005				
14	Cyanide				5								
68	Bis(2-ethylhexyl)phthalate		5.0										

Footnotes for Table E-1:

[a] Analytical Methods / Laboratory techniques are defined as follows:

- GC = Gas Chromatography;
- GCMS = Gas Chromatography/Mass Spectrometry;
- Color = Colorimetric;
- GFAA = Graphite Furnace Atomic Absorption;
- ICPMS = Inductively Coupled Plasma/Mass Spectrometry;
- SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9); and
- CVAF = Cold Vapor Atomic Fluorescence.

[b] Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (U.S.EPA 16669) to the maximum extent practicable and ultra-clean analytical methods (U.S.EPA 1631) for mercury monitoring. The Discharger may only use alternative methods if the method has an ML of 0.5 ng/L or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.

## II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations listed in Table E-2 to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

**Table E-2. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
Influent	A-001	At any point in the treatment facilities head-works at which all waste tributary to the system is present and preceding any phase of treatment, and exclusive of any return flows or process side-streams
Effluent	E-001	At any point in the treatment facilities between the point of discharge and the point at which all waste tributary to the outfall is present (may be the same as E-001D)
	E-001D	At any point in the treatment facilities at which point adequate contact with the disinfectant is assured.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
Receiving Waters	C-1	A point in Calera Creek, approximately 10 feet upstream of the discharge point
	C-2	A point in Calera Creek immediately downstream of the discharge point, where the effluent and receiving water are completely mixed across the creek's cross section.
	C-3	A point in Calera Creek at the elevation of mean high-high water , where ocean water mixes with creek water at high tide.
	C-4	A point in the Pacific Ocean at the elevation of mean low-low water where water from Calera Creek mixes with ocean water.

[

### III. INFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location A-001

1. The Discharger shall monitor influent to the facility at A-001 as follows:

**Table E-3. Plant Influent Monitoring**

Parameter	Units <sup>[1]</sup>	Sample Type <sup>[2]</sup>	Minimum Sampling Frequency	Required Analytical Test Method
BOD <sub>5</sub> <sup>[3]</sup>	mg/L kg/day	C-24	Once / Week	405.1
TSS <sup>[4]</sup>	mg/L kg/day	C-24	Once / Week	160.2
Oil and Grease	mg/L kg/day	C-24	Twice / Month	1664

[1] Unit Abbreviations:

mg/L = milligrams per liter  
 kg/day = kilograms per day  
 µg/l = micrograms per liter

[2] Sample Type Abbreviations:

C-24 = 24-hour composite

[3] 5-Day Biochemical Oxygen Demand at 20° C

[4] Total Suspended Solids

### IV. EFFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location E-001

1. The Discharger shall monitor treated effluent at E-001 in accordance with the following schedule.



**Table E-4. City of Pacifica Common Outfall Effluent Monitoring (E-001)**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate	mgd	Continuous	Continuous
BOD <sub>5</sub>	mg/l,	C-24	once / week
TSS	mg/l	C-24	once / week
Oil & Grease	mg/l, kg/day	Grab	twice / month
Turbidity	NTU	C-24	once / day
Acute Toxicity 96-hr.	Percent survival	Flow through	once / month
Ammonia Nitrogen	mg/l	Grab	once / week
Total Organic Nitrogen	mg/l	Grab	once / week
Nitrate Nitrogen	mg/l	C-24	once / week
Total Phosphorus	mg/l	C-24	twice / month
pH	pH Units	Grab	once / day
Dissolved Oxygen	mg/l, % saturation	Grab	once / day
Temperature	°C	Grab	once / day
Fecal Coliform	MPN/100 ml	Grab	5 times / week
Sulfides (if DO < 5.0 mg/l) Total and Dissolved	mg/l	Grab	once / day
Copper	µg/l	C-24	once / month
Lead	µg/l	C-24	once / month
Mercury	µg/l	C-24	once / month
Cyanide	µg/l	Grab	once / month
Bis(2-ethylhexyl) phthalate	µg/l	C-24	once / quarter
Other Priority Pollutants	µg/l	Follow August 6, 2001 letter	once/year

All analyses shall be performed using current U.S. EPA methods as specified in 40CFR Part 136. Metals units are expressed as total recoverable metals.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity

Compliance with whole acute toxicity testing requirements of this Order shall be achieved in accordance with the following:

1. Acute toxicity of effluent limits shall be evaluated by measuring survival of test organisms exposed to 96-hour flow through bioassays.
2. The test species shall be rainbow trout (*Oncorhynchus mykiss*) unless specified otherwise in writing by the Executive Officer.
3. All bioassays shall be performed according to 40 CFR 136, currently the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine

Organisms,” 5<sup>th</sup> Edition. Exceptions may be granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP.)

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

5. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue back to back until compliance is demonstrated.

## B. Chronic Toxicity

1. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in the Appendices of the MRP. The Discharger shall comply with these requirements and conduct screening phase monitoring, as outlined. The Discharger may reduce the total number of required test species from 5 to 3 during stage one screening.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable.

## VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable.

## VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

### A. Monitoring Locations – All Receiving Water Stations

1. The Discharger shall monitor Receiving Water at each receiving-water monitoring location (C-1, C-2, C-3, and C-4) as follows.

**Table E-5. City of Pacifica Receiving Water Monitoring (C-1, C-2, C-3 and C-4)**

Parameter	Units <sup>[1]</sup>	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen	mg/l	Grab	twice / year <sup>[2]</sup>	350.3
Nitrate Nitrogen	mg/l	Grab	twice / year <sup>[2]</sup>	300.0
Total Organic Nitrogen	mg/l	Grab	twice / year <sup>[2]</sup>	351.4

Parameter	Units <sup>[1]</sup>	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Phosphorus	mg/l	Grab	twice / year <sup>[2]</sup>	365.2
pH	pH Units	Grab	twice / year <sup>[2]</sup>	150.1 or 9040
Dissolved Oxygen	mg/L, percent saturation	Grab	twice / year <sup>[2]</sup>	--
Temperature	°C	Grab	twice / year <sup>[2]</sup>	--
Fecal Coliform	MPN/100 ml	Grab	twice / year <sup>[2]</sup>	1600 Series
Total and Dissolved Sulfides (if DO < 2.0 mg/L)	mg/l	Grab	twice / year <sup>[2]</sup>	376.2
Priority Pollutant	mg/l	Grab	Once/ 5 years	C-1 and C-2 only <sup>[3]</sup>

[1] Unit Abbreviations:

mg/L	=	milligrams per liter
kg/day	=	kilograms per day
µg/l	=	micrograms per liter
% Saturation	=	percent saturation of dissolved oxygen in water
MPN/100 ml	=	Most Probable Number per 100 milliliters
°C	=	degree Celsius

[2] Once in March and once in September.

[3] The sample type and analytical method should be as described in the August 6, 2001 letter with sampling and analysis once every five years for C-1 and C-2 only

- Two times each week, the Discharger shall make visual observations at each receiving water monitoring location and record standard observations regarding appearance, as it relates to discharges from the wastewater treatment plant, of Calera Creek, the wetlands area, and the ocean. Such observations may include the appearance of color, foams, or sheens; excessive plant growth, the presence of unhealthy plants or animals, etc. Observations shall be recorded and routinely reported in Self Monitoring Reports. As described in Section II of this Monitoring and Reporting Plan, these receiving water monitoring locations shall be identified as location Nos. C-1, C-2, C-3, and C-4.

## IX. OTHER MONITORING REQUIREMENTS

None.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping, except as otherwise specified below.

### B. Self Monitoring Reports (SMRs)

- At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self Monitoring Reports. Until such notification is given,

the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order for each calendar month. Monthly reports shall be due on the 30<sup>th</sup> day following the end of each calendar month, covering samples collected during that calendar month. Annual reports shall be due on February 1 following each calendar year.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the schedule given in Table E-6

**Table E-6. Monitoring Period**

Sampling Frequency	Monitoring Period Begins on ..	Monitoring Period
Continuous	Day after effective date of permit	All
Once / Day	Day after effective date of permit	12:00 a.m. for 24 hours or any other 24 hours representing that calendar day
Twice / Week	Sunday, on or following effective date of permit	Sunday through Saturday
Five times / Week	Sunday on or following effective date of permit	Sunday through Saturday
Twice / Month	Earliest of on or after first day of calendar month following effective date of permit.	1 <sup>st</sup> day of calendar month through last day of calendar month
Once / Month	Earliest of on or after first day of calendar month following effective date of permit	1 <sup>st</sup> day of calendar month through last day of calendar month
Once / Quarter	Closest of January 1, April 1, July 1 or October 1 on or following effective date of permit.	Calendar quarters starting January 1 of each year
Twice / Year	Closest of May 1, or November 1 on or following effective date of permit.	November 1 through April 30 and May 1 through October 31
Once / Year	Closest of May 1, or November 1 on or following effective date of permit.	Alternate between period November 1 through April 30 (one year) and period May 1 through October 31 (following year).

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) or Reporting Limit (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the Reporting Limit shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the Reporting Limit, but greater than or equal to the laboratory's Method Detection Limit, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's Method Detection Limit shall be reported as "Not Detected," or ND. In the ERS, the MDL is to be reported and a qualifier of "<" may be reported.
- d. The Dischargers shall instruct laboratories to establish calibration standards so that the Reporting Limit value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Discharger shall not use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.
6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the Waste Discharge Requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:  
  
Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612  
ATTN: NPDES Wastewater Division
8. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The Electronic Reporting System format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the Electronic Reporting System requirements and the printed copy requirements listed in the Monitoring Reporting Program, then the approved Electronic Reporting System requirements supersede.

### C. Discharge Monitoring Reports

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring

reports. Until such notification is given, the Discharger shall submit discharge monitoring reports in accordance with the requirements described below.

2. Discharge Monitoring Reports must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original Discharge Monitoring Report and one copy to the address listed below:

State Water Resources Control Board  
Discharge Monitoring Report Processing Center  
Post Office Box 671  
Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed Discharge Monitoring Report forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

#### D. Other Reports

1. **Annual Reports.** By February 1<sup>st</sup> of each year, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the items described in *Standard Provisions and Reporting Requirements, and SMP Part A, August 1993* (Attachment G).

## APPENDIX E-1. CHRONIC TOXICITY

### DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

#### I. Definition of Terms

- A. No observed effect level (NOEL) for compliance determination is equal to  $IC_{25}$  or  $EC_{25}$ . If the  $IC_{25}$  or  $EC_{25}$  cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber.  $EC_{25}$  is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.
- C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an  $IC_{25}$  is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.
- D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

#### II. Chronic Toxicity Screening Phase Requirements

- A. The Discharger shall perform screening phase monitoring:
  - 1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or
  - 2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
  - 1. Use of test species specified in **Appendix E-2**, attached, and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:
    - a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).
    - b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
  3. Appropriate controls.
  4. Concurrent reference toxicant tests.
  5. Dilution series 100%, 50%, 25%, 10%, 5%, 0 %, where “%” is percent effluent as discharged, or as otherwise approved the Executive Officer.
- C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharge shall commence with screening phase monitoring.



## APPENDIX E-2. SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

### Critical Life State Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	( <i>Skeletonema costatum</i> ) ( <i>Thalassiosira pseudonana</i> )	Growth rate	4 days	1
Red alga	( <i>Champia parvula</i> )	Number of cystocarps	7–9 days	3
Giant kelp	( <i>Macrocystis pyrifera</i> )	Percent germination; germ tube length	48 hours	2
Abalone	( <i>Haliotis rufescens</i> )	Abnormal shell development	48 hours	2
Oyster Mussel	( <i>Crassostrea gigas</i> ) ( <i>Mytilus edulis</i> )	Abnormal shell development; percent survival	48 hours	2
Echinoderms -Urchins Sand dollar	( <i>Strongylocentrotus purpuratus</i> , <i>S. franciscanus</i> ) ( <i>Dendraster excentricus</i> )	Percent fertilization	1 hour	2
Shrimp	( <i>Mysidopsis bahia</i> )	Percent survival; growth	7 days	3
Shrimp	( <i>Holmesimysis costata</i> )	Percent survival; growth	7 days	2
Topsmelt	( <i>Atherinops affinis</i> )	Percent survival; growth	7 days	2
Silversides	( <i>Menidia beryllina</i> )	Larval growth rate; percent survival	7 days	3

#### Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

### Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	( <i>Pimephales promelas</i> )	Survival; growth rate	7 days	4
Water flea	( <i>Ceriodaphnia dubia</i> )	Survival; number of young	7 days	4
Alga	( <i>Selenastrum capricornutum</i> )	Cell division rate	4 days	4

#### Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

### Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay <sup>[2]</sup>	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type:			
Freshwater <sup>[1]</sup>	0	1 or 2	3
Marine/Estuarine	4	3 or 4	0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

- (a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or
- (b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2] (a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

- (b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

## Attachment F – Fact Sheet

### Table of Contents

Attachment F – Fact Sheet.....	2
I. Permit Information.....	2
II. Facility Description.....	3
III. Applicable Plans, Policies, and Regulations.....	6
IV. Rationale For Effluent Limitations and Discharge Specifications .....	10
A. Discharge Prohibitions .....	11
B. Technology-Based Effluent Limitations .....	12
C. Water Quality-Based Effluent Limitations (WQBELs) .....	13
D. Final Effluent Limitations .....	30
E. Interim Effluent Limitations.....	30
F. Land Discharge Specifications.....	31
G. Reclamation Specifications .....	31
V. Rationale for Receiving Water Limitations .....	31
VI. Rationale for Monitoring and Reporting Requirements .....	31
VII. Rationale for Provisions.....	33
VIII. Public Participation.....	36

### List of Tables

Table F-1. Facility Information.....	2
Table F-2. Historic Effluent Limitations and Monitoring Data.....	4
Table F-3. Historic Effluent Limitations and Monitoring Data for pH .....	4
Table F-4. Historic Effluent Limitations and Monitoring Data for Fecal Coliform .....	5
Table F-5. Exceedances of Numeric Effluent Limitations During the Previous Permit Term.....	5
Table F-6. Basin Plan Beneficial Uses of Inland Streams .....	7
Table F-7. Summary of Technology-based Effluent Limitations.....	13
Table F-8. Effluent Limitations for Ammonia – Order No. 99-066 .....	18
Table F-9. Summary of RPA Results .....	20
Table F-10. Summary of Effluent Limitation Calculations for Copper, Lead and Mercury.....	27
Table F-11. Summary of Effluent Limitation Calculations for Cyanide, Dioxin-TEQ, and Bis(2- eththylhexyl)phthalate .....	29
Table F-12. Final WQBELs.....	30

### List of Appendices

#### APPENDICES

- Appendix 1 Applicable Water Quality Objective/Criteria
- Appendix 2 Data Input for RPA
- Appendix 3 Reasonable Potential Analysis Results
- Appendix 4 Calculations of Coefficients of Variation
- Appendix 5 WQBEL Calculations
- Appendix 6 Compliance Feasibility Analysis

## ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	2 386015001
<b>Discharger</b>	City of Pacifica
<b>Name of Facility</b>	Calera Creek Water Recycling Plant
<b>Facility Address</b>	700 Coast Highway
	Pacifica, CA. 94044
	San Mateo County
<b>Facility Contact, Title and Phone and email</b>	David Gromm, Plant Manager, (650) 738-4663, grommd@ci.pacifica.ca.us
<b>Authorized Person to Sign and Submit Reports</b>	David Gromm, Plant Manager, (650) 738-4663, grommd@ci.pacifica.ca.us
<b>Mailing Address</b>	170 Santa Maria Avenue Pacifica, CA 94044
<b>Billing Address</b>	Same as Mailing Address
<b>Type of Facility</b>	POTW
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	No
<b>Reclamation Requirements</b>	Producer
<b>Facility Permitted Flow</b>	4.0 MGD (Average Dry Weather)
<b>Facility Design Flow</b>	4.0 MGD (Average Dry Weather)
	7 MGD (Peak Dry Weather)
	20 MGD (Peak Wet Weather)
<b>Watershed</b>	San Mateo Coastal
<b>Receiving Water</b>	Calera Creek
<b>Receiving Water Type</b>	Inland Surface Water (fresh)

- A. The City of Pacifica (hereinafter, the Discharger) is the owner and operator of the Calera Creek Water Recycling Plant, a POTW.
- B. The facility discharges tertiary treated wastewater to Calera Creek, a water of the United States and is currently regulated by Order 99-066, which was adopted on September 15, 1999 and amended by Order No. R2-2002-0088 on October 1, 2002. After its expiration on September 15, 2004, Order No. 99-066 was administratively extended pursuant to 40 CFR Part 1226.
- C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on May 05, 2004.

## **II. FACILITY DESCRIPTION**

### **A. Description of Wastewater and Biosolids Treatment or Controls**

The Discharger owns and operates the Calera Creek Water Recycling Plant and the associated sewage collection system. All references to the Recycling Plant in this Fact Sheet shall also include reference to the collection system.

The system collects all sewage from within the city boundaries. The City of Pacifica has nine designated neighborhoods with a population of 39,000. There are 82 miles of gravity sewers and 4.2 miles of force main sewer pipes. Interceptor sewers are 6" and 8", and trunk sewers are 10" and 24". There are five sewage pump stations with a total pump capacity of 34,000 gallons per minute that deliver waste water to the Calera Creek Water Recycling Plant for treatment.

The Recycling Plant provides tertiary treatment of domestic wastewater from the City of Pacifica. Wastewater flows over a cascade aerator and is discharged from Discharge Point 001 to the Calera Creek, a water of the United States approximately 0.5 miles from the Pacific Ocean. The portion of Calera Creek between the discharge structure and the Pacific Ocean is a restored wetland, with an intermittent drainage to the Pacific Ocean. The water surface elevation of the discharge at the cascade aerator entrance weir is approximately 2 to 3 feet above the water surface elevation of Calera Creek during a 100-year storm event (i.e., at 800 cubic feet per second.)

The treatment facilities consist of screens at the Sharp Park and Linda Mar pump stations, grit removal, sequencing batch reactors for secondary treatment and nitrogen removal, filtration, and ultraviolet light disinfection. Treated effluent is discharged to Calera Creek, a restored wetland project. Sludge from the sequencing batch reactors is stored in waste activated sludge storage basins, which are aerated prior to thickening with gravity belt thickeners. After thickening, the sludge is digested in autothermophilic aerobic digesters then dewatered with centrifuges. Dewatered sludge is hauled away for land disposal at authorized sites.

The treatment plant has an average dry weather treatment capacity of 4.0 million gallons per day (MGD), and a peak dry weather capacity of 7 MGD. The plant was designed to treat a peak hourly wet weather flow of 20 MGD. It had an average daily flow rate of 3.63 MGD over the three-year period of 2001 – 2003.

### **B. Discharge Points and Receiving Waters**

The Plant discharges to Calera Creek, a fresh water stream which flows to the Pacific Ocean. A condition of the original NPDES permit for the tertiary treatment facility to discharge to Calera Creek was that the Discharger restore 8.7 acres of wetlands and endangered species habitat along Calera Creek downstream of the discharge point. The project included two ponds designed as habitat for the endangered San Francisco garter snake, as well as restoration of 8.5 acres of uplands adjacent to the wetlands, and preservation of an additional 9 acres of adjacent, existing grassland. The wetland design was based on a hydrogeomorphic approach, which incorporated data from similar coastal creeks along the San Mateo County coastline to set quantifiable design and monitoring targets for restoration.

The site is located in an abandoned quarry in the Rockaway Beach District of the City of Pacifica, San Mateo County, California. The purpose of the wetland restoration project was to restore

portions of this abandoned quarry with low ecological value to a natural gradient of fresh, brackish, and salt marshes along Calera Creek. The overall habitat restoration along Calera Creek constitutes a net environmental benefit that is viewed as an allowable exception to the Basin Plan's prohibition against discharges that do not receive a minimum initial dilution of at least 10 to 1 (see further discussion in III.E.1, below).

### C. Summary of Existing Requirements and Self-Monitoring Report Data

1. Effluent limitations contained in Order No. 99-066 for discharges from Discharge Point 001 and representative monitoring data from the term of Order No. 99-066 are shown in Table F-2 through F-4 below.

**Table F-2. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation			Monitoring Data (From 9/2000 to 12/2005)	
		Average Monthly	Maximum Daily	Instant. Maximum	Highest Average Monthly Discharge	Highest Daily Discharge
BOD <sub>5</sub> at 20° C	mg/l	10	20	---	8.1	17.7
Total Suspended Solids	mg/l	10	20	---	10.4	128
Ammonia-Nitrogen (NH <sub>3</sub> -N):						
Dry Season (June – Sept.)	mg/l	2	5	---	8.4	13
Wet Season (Oct. – May)	mg/l	5	10	---	5.9	13
Oil & Grease	mg/l	5	10	---	7.7	23
Settleable Matter	ml/l-hr	0.1	---	0.2	ND	ND
Turbidity	NTU	---	---	10	---	7.7
Chromium	µg/l	---	11 <sup>[1]</sup>	---	---	6.4
Copper	µg/l	---	9.3 <sup>[1]</sup>	---	---	12
Lead	µg/l	---	3.2 <sup>[1]</sup>	---	---	0.54
Mercury	µg/l	---	0.025 <sup>[1]</sup>	---	---	0.038
Selenium	µg/l	---	5.0 <sup>[1]</sup>	---	---	1.2
Zinc	µg/l	---	120 <sup>[1]</sup>	---	---	62
Cyanide	µg/l	---	5.2 <sup>[1]</sup>	---	---	5.2

**Table F-3. Historic Effluent Limitations and Monitoring Data for pH**

Parameter	Units	Effluent Limitation		Monitoring Data (From 9/2000 to 12/2005)	
		Minimum	Maximum	Minimum	Maximum
pH		6.5	8.5	6.96	7.88

**Table F-4. Historic Effluent Limitations and Monitoring Data for Fecal Coliform**

Parameter	Units	Effluent Limitation		Monitoring Data (From 9/2000 to 12/2005)	
		Geometric Mean	90 <sup>th</sup> Percentile	Highest Monthly Geometric Mean	Highest Daily Discharge
Fecal coliform	MPN/100 ml	20	400	99.3	2,400

## 2. Acute Toxicity

Order 99-066 contained effluent limitations for acute toxicity described as follows:

- Survival of organisms in undiluted effluent shall be an 11-sample median value of not less than 90 percent survival; and
- The 90<sup>th</sup> percentile value shall not be less than 70 percent survival.

Acute toxicity bioassays performed between September 2002 and December 2005 indicate an average percent survival of 98.2 percent, with a minimum percent survival of 90 percent.

## D. Compliance Summary

The Regional Water Board issued Complaint No. R2-2005-0066 on March 8, 2006, assessing Mandatory Minimum Penalties pursuant to Water Code sections 13385(h) and (i) to the City of Pacifica based on a finding of violations of Waste Discharge Requirements Order Nos. 99-066 and 02-088. Table F-5 summarizes the number of effluent limitation exceedances for Discharge Point 001 during the period from September, 2000 through June, 2005, as described in Complaint No. R2-2005-0066.

**Table F-5. Exceedances of Numeric Effluent Limitations During the Previous Permit Term**

Parameter <sup>[1]</sup>	Number of Exceedances					
	2000	2001	2002	2003	2004	2005
Total Suspended Solids (Daily Maximum Limitation)		5		1	1	
Turbidity (Instantaneous Maximum Limitation)		3			5	4
Oil & Grease (Daily Maximum Effluent Limitation)		1				1
Oil & Grease (Monthly Average Limitation)						
pH		1				
Ammonia-N (Dry Weather, Daily Maximum Limitation)			7		6	
Ammonia-N (Dry Weather, Monthly Average Limitation)	1		4			
Ammonia-N (Wet Weather, Daily Maximum Limitation)		2	1			
Ammonia-N (Wet Weather, Monthly Average Limitation)		2	1			
Fecal Coliform (5-Sample Log Mean)			1		58	10
Fecal Coliform (10-Sample 90 <sup>th</sup> percentile)					14	1
Mercury (Daily Maximum Limitation)		2				
Copper (Daily Maximum Limitation)					3	

[1] Parameters not listed did not exceed effluent limitations during the period from September 2000 – June 2005.

#### **E. Planned Changes**

Not Applicable.

### **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

#### **A. Legal Authorities**

This Order is issued pursuant to CWA Section 402 and implementing regulations adopted by the USEPA and CWC Chapter 5.5, Division 7. It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under CWA Section 402.

#### **B. California Environmental Quality Act (CEQA)**

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with CWC Section 13389.

#### **C. Technology-Based Effluent Limitations**

NPDES regulations at 40 CFR 122.44(a) require permits to include applicable technology-based limitations and standards. This Order includes limitations that meet both the technology-based secondary treatment standards for POTWs and protect the beneficial uses of the receiving waters. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. A detailed discussion of development of technology-based effluent limitations is included in this Fact Sheet.

#### **D. Water Quality-Based Effluent Limitations**

NPDES regulations at 40 CFR 122.44(d) require permits to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving waters. Where numeric water quality objectives have not been established, 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA Section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. A detailed discussion of development of WQBELs is included in this Fact Sheet.

#### **E. Water Quality Control Plans**

1. The Regional Water Board adopted a *Water Quality Control Plan for the San Francisco Basin* (Region 2) (hereinafter, the Basin Plan) that designates beneficial uses, establishes



water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan was amended on January 21, 2004 by Resolution No. R2-2004-003. This amendment was approved by the State Water Board and the Office of Administrative Law on July 22, 2004, and October 4, 2004, respectively. USEPA gave final approval to the amendment on January 5, 2005.

The Basin Plan does not specifically identify beneficial uses for Calera Creek, but describes the beneficial uses for inland streams shown in Table F-6.

**Table F-6. Basin Plan Beneficial Uses of Inland Streams**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Calera Creek	<ul style="list-style-type: none"><li>• Agricultural Supply (AGR)</li><li>• Cold Freshwater Habitat (COLD)</li><li>• Freshwater Replenishment (FRSH)</li><li>• Groundwater Recharge (GWR)</li><li>• Industrial Service Supply (IND)</li><li>• Fish Migration (MIGR)</li><li>• Industrial Process Supply (PRO)</li><li>• Water Contact Recreation (REC1)</li><li>• Non-contact Water Recreation (REC2)</li><li>• Fish Spawning (SPWN)</li><li>• Warm Freshwater Habitat (WARM)</li><li>• Wildlife Habitat (WILD)</li></ul>

For purposes of reissuing the NPDES permit to the Calera Creek Water Recycling Plant, Regional Water Board staff has examined actual uses of Calera Creek downstream of the discharge point and determined that the beneficial use of Municipal and Domestic Water Supply is not applicable in these circumstances.

Table 4-1 of the Basin Plan prohibits the discharge of wastewater which has characteristics of concern to beneficial uses (1) at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or (2) into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof. Discharge of treated wastewater to Calera Creek is contrary to this prohibition because it does not provide a minimum initial dilution of at least 10:1.

There are three mechanisms by which a municipal discharger may qualify to be granted an exception to the Basin Plan prohibition. Exceptions will be considered by the Regional Water Board where a discharger meets the following requirements: (1) an inordinate burden would be placed on the Discharger relative to beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability; or (2) a discharge is approved as part of a reclamation project; or (3) it can be demonstrated that net environmental benefits will be derived as a result of the discharge.

Prior to adoption of Order No. 99-066, the Discharger demonstrated that a net environmental benefit (wetlands restoration) would result from its discharge to Calera Creek. This Order

affirms the Regional Water Board's previous determination that the discharge prohibition (when 10 to 1 dilution is not available) does not apply to the Discharger's shallow water discharge.

Calera Creek is not included on the 303(d) list as an impaired waterbody.

2. The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

#### **F. National Toxics Rule (NTR) and California Toxics Rule (CTR)**

USEPA adopted the NTR on December 22, 1992 and amended it on May 4, 1995 and November 9, 1999. The CTR was adopted on May 18, 2000 and amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

#### **G. State Implementation Policy**

On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control.

#### **H. Compliance Schedules and Interim Requirements**

Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.

This Order includes a compliance schedule and interim effluent limitations for bis(2-ethylhexyl) phthalate. Discussion of the basis for the compliance schedule and interim effluent is included in this Fact Sheet.

## **I. Alaska Rule**

On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

## **J. Stringency of Requirements for Individual Pollutants**

This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand, total suspended solids, oil and grease, and turbidity. Restrictions on these pollutants are specified in federal regulations, and in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically copper (fresh water) and lead) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

## **J. Antidegradation Policy**

NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.

## **K. Anti-backsliding Requirements**

CWA Sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in this Fact Sheet, the limitations and conditions of this Order are consistent with all anti-backsliding requirements of the CWA and federal regulations.

#### **L. Monitoring and Reporting Requirements**

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC Sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This is provided in Attachment E. The Monitoring and Reporting Program may be amended by the Executive Officer pursuant to USEPA regulations at 40 CFR 122.62, 122.63, and 124.5.

#### **M. Standard and Special Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in this Fact Sheet.

#### **N. Other Plans, Policies and Regulations**

Not Applicable.

### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The Clean Water Act requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations; and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR 122.44 (a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44 (d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality: 1) 40 CFR 122.44 (d) specifies that WQBELs may be established using USEPA criteria guidance under CWA Section 304 (a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

This Order contains restrictions on individual pollutants that are no more stringent than required by the Clean Water Act. For BOD and TSS, the effluent limits are lower than would be apparent in the Basin Plan and the Clean Water Act, but these limits were in the previous permit and the Clean Water Act, through anti-backsliding provisions does not allow less stringent effluent limits. Individual pollutant restrictions consist of WQBELs that have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the

water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs limitations were derived from the California Toxics Rule (CTR), the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA prior to May 1, 2001, or Basin Plan provisions approved by USEPA on May 29, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR 131.21 (c) (1). The remaining water quality objectives and beneficial uses implemented by this Order were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21 (c) (2). Collectively, this Order's restrictions on individual pollutants are no more stringent than the applicable water quality standards for purposes of the Clean Water Act.

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

#### A. Discharge Prohibitions

1. Prohibition III. A (No discharge except as contemplated by the Order and/or as described by the Discharger). This prohibition is based on California Water Code (CWC) Section 13260, which requires submittal of a ROWD, including all information required by the Regional Water Board, by any person discharging waste to waters of the State. Discharges not described by the Discharger in its ROWD, and therefore not contemplated by the Regional Water Board in issuing the Order, are viewed as unauthorized discharges to waters of the State.
2. Prohibition III.B (No bypass). This prohibition is based on the Basin Plan prohibition against the discharge of partially treated and untreated wastes (Chapter 4, Discharge Prohibition No.15), as well as general concepts contained in CWC Sections 13260 through 13264 that relate to the discharge of waste to State waters without filing for and being issued a permit. Under certain circumstances, as stated in 40 CFR 122.41 (m), the facilities may bypass waste streams to waters of the State in order to prevent loss of life, personal injury, or severe property damage, or if there were no feasible alternatives to the bypass and the Discharger submitted notices of the anticipated bypass to waters of the State. This prohibition is retained from Order 99-066.
3. Prohibition III.C (No discharge in excess of design flow capacities). Order No. 99-066, as amended by Order No. R2-2002-0088, prohibited flows in excess of the facility's design dry weather capacity of 4.0 MGD. This condition is based on dry weather capacity constraints of the treatment system.
4. Discharge Prohibition III.D (no sanitary sewer overflows to waters of the United States): The Clean Water Act prohibits the discharge of wastewater to surface waters except as authorized under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards [33U.S.C. §1311(b)(1)(B) and (C)]. Thus a sanitary sewer overflow that results in

the discharge of raw sewage, or sewage not meeting secondary treatment, to surface waters is prohibited under the Clean Water Act.

## **B. Technology-Based Effluent Limitations**

NPDES regulations at 40 CFR 122.44 (a) require that permits include applicable technology-based limitations and standards. This Order includes such limitations based on the minimum level of effluent quality attainable by secondary treatment, as established at 40 CFR 133. This Secondary Treatment Regulation includes requirements for BOD<sub>5</sub>, suspended solids, and pH. The Regional Water Board, in Table 4-2 of the Basin Plan, has supplemented these technology based requirements with additional requirements for conventional pollutants (total coliform bacteria, oil and grease, and total residual chlorine), which are applicable to this Plant.

Regulations promulgated at 40 CFR 125.3 (a) (1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards. Where the USEPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402 (a) (1) and USEPA regulations at 40 CFR 125.3 authorize the use of best professional judgment to derive technology-based effluent limitations on a case-by-case basis. When best professional judgment is used, the permit writer must consider specific factors outlined at 40 CFR 125.3.

1. **Biochemical Oxygen Demand.** Effluent limitations for BOD<sub>5</sub> are retained from the expiring permit (Order No. 99-066). These limitations are more stringent than requirements of 40 CFR 133 and of Table 4-2 of the Basin Plan and have been established using best professional judgment, reflecting levels of performance expected for tertiary treatment systems.
2. **Total Suspended Solids.** Effluent limitations for TSS are retained from the expiring permit (Order No. 99-066). These limitations are more stringent than requirements of 40 CFR 133 and of Table 4-2 of the Basin Plan and have been established using best professional judgment, reflecting levels of performance expected for tertiary treatment systems.
3. **Oil and Grease.** Effluent limitations for O&G are retained from the expiring permit (Order No. 99-066). These limitations are more stringent than requirements of Table 4-2 of the Basin Plan and have been established using best professional judgment, reflecting levels of performance expected for tertiary treatment systems.
4. **Turbidity.** The effluent limitation for turbidity is retained from the expiring permit (Order No. 99-066). These limitations are more stringent than requirements of Table 4-2 of the Basin Plan and have been established using best professional judgment, reflecting levels of performance expected for tertiary treatment systems.
5. **Total Chlorine Residual.** An effluent limitation for chlorine was not included in Order No. 99-066, nor will one be included in this Order, as the U.S. Fish and Wildlife Service has prohibited the discharge of chlorine or chlorinated compounds to the restored Calera Creek Wetlands. Therefore, the facility disinfects with UV light, not chlorine.
6. **pH.** This effluent limitation is unchanged from the previous permit, and is based on the requirements of Table 4-2 of the Basin Plan for shallow water dischargers.

7. **Settleable Solids.** Effluent limitations for settleable solids (0.1 ml/l/hr – monthly average and 0.2 ml/l/hr) from the expiring permit are not retained by this Order. The Regional Water Board has determined that compliance with the requirements of 40 CFR 133 and of Table 4-2 of the Basin Plan will assure removal of settleable solids to the acceptably low levels prescribed as effluent limitations in the expiring permit; and therefore, the elimination of those limitations will not affect treatment performance or effluent quality but will reduce some analytical burden for the Discharger.
8. **Fecal Coliform Bacteria.** Limitations for fecal coliform bacteria from Order No. 99-066 (as amended by Order No. R2-2002-0088) have been changed to 200 MPN/100ml reflecting the most stringent use being REC1, Water Contact recreation. The previous permit had limits reflecting the most stringent use as MUN, drinking water-supply which was an error. Calera Creek has no specific designated use in the Basin Plan and it has not been used as a drinking water supply. The impacted part of the creek, downstream of the treatment plant outfall, is the last half mile before discharge to the ocean. Effluent from the treatment plant, which is not considered a drinking water-supply, dominates this flow and has allowed the development of a wetlands.

**Table F-7. Summary of Technology-based Effluent Limitations**

Parameter	Units	Final Effluent Limits		
		Daily Maximum	Monthly Average	Instantaneous Maximum
BOD <sub>5</sub>	mg/l	20	10	---
TSS	mg/l	20	10	---
Oil and Grease	mg/l	10	5	---
Turbidity	NTU	---	---	10

### C. Water Quality-Based Effluent Limitations (WQBELs)

#### 1. Scope and Authority.

NPDES regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters, as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other State plans and policies and in the CTR and NTR.

NPDES regulations and the SIP provide the basis to establish maximum daily effluent limitations (MDELs).

- a **NPDES Regulations.** NPDES regulations at 40 CFR Part 122.45 (d) state that “[f]or continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works.”

- b **SIP.** The SIP (page 8, Section 1.4) requires that WQBELs be calculated as maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

## 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives.

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the California Toxics Rule (CTR), codified at 40 CFR 131.38 (Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California); and the National Toxics Rule (NTR), codified at 40 CFR 131.36 [Toxics Criteria for Those States not Complying with Clean Water Act Section 303 (c) (2) (B).]

- a. **Basin Plan.** The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide (see also c., below). The narrative toxicity objective states, in part, that “[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.” The bioaccumulation objective states, in part, “[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.” Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.
- b. **CTR.** The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries, except where numeric objectives from Tables 3-3 and/or 3-4 of the Basin Plan supersede criteria of the CTR (except in the South Bay south of the Dumbarton Bridge).
- c. **NTR.** The NTR establishes numeric, chronic and acute criteria for trivalent chromium and cyanide for the protection of aquatic life, as well as numeric criteria for 36 toxic, organic pollutants for the protection of human health, which are applicable to inland, fresh waters of the State, which are not designated used as domestic and municipal supplies. These criteria apply to the Calera Creek.
- d. **Technical Support Document for Water Quality-Based Toxics Controls.** Where numeric objectives have not been established or updated in the Basin Plan, NPDES regulations at 40 CFR Part 122.44 (d) require that WQBELs be established based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses.

To determine the need for and establish WQBELs, when necessary, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR Parts 122 and 131, as well as guidance and requirements established by the Basin Plan; USEPA’s *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board’s



*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (the SIP, 2005).*

- e. **Basin Plan Receiving Water Salinity Policy.** The Basin Plan states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria, (the latter calculated based on ambient hardness), for each substance.

Receiving Water Salinity: The receiving water for the subject discharge is Calera Creek, an inland fresh water, and therefore, the reasonable potential analysis (RPA) and limitations in this Order are based on fresh water WQOs/WQC.

- f. **Receiving Water Hardness.** Some fresh water WQOs/WQC for metals are hardness dependent; i.e., as hardness increases in the receiving water, the toxicity of certain metals decreases. To determine applicable water quality criteria for hardness dependent metals for purposes of this reasonable potential analysis, Regional Water Board staff has used a hardness value of 128 mg/l  $\text{CaCO}_3$ , which is the adjusted geometric mean of hardness data generated by the Discharger in receiving stream samples collected downstream (at the "lower discharge" location) of the point of discharge. The adjusted geometric mean is a value that 30 percent of the data points fall below. 128 mg/l  $\text{CaCO}_3$  is representative of receiving stream hardness in this effluent dominated environment.

The adjusted geometric mean is used in the U.S.EPA Water Effect Ratio (WER) calculation. Since it is considered that hardness plays a similar role as the WER in influencing the toxicity of metals, the adjusted geometric mean is applied to the hardness data set to determine the hardness value to be used in the reasonable potential analysis.

The adjusted geometric mean is calculated as follows:

1. Calculate the logarithm of each hardness value. 2. Calculate the arithmetic mean of the logarithms. 3. Calculate the standard deviation (s) of the logarithms. 4. Calculate the standard error (SE) of the arithmetic mean:  $SE = s/n^{-0.5}$  5. Calculate  $A = \text{arithmetic mean} - t_{0.7} \times SE$  where  $t_{0.7}$  is the value of Student's t statistics for a one-sided probability of 0.7 with  $n-1$  degrees of freedom,  $n$ -sample size. When the sample size is large, the Student t statistics can be approximate by the normal distribution z-statistics, which is 0.524. 6. Take the antilogarithm of A; antilog A is the adjusted geometric mean.

- g. **Dilution Credit.** Discharge from the Calera Creek Water Recycling Plant to Calera Creek is through a shallow water outfall. The Discharger has not provided evidence to support a dilution credit for the discharge; therefore, water quality based effluent limitations established by this Order are based on zero dilution credit.
- h. **Translators for Metals.** Because NPDES regulations at 40 CFR 122.45 (c) require effluent limitations for metals to be expressed as total recoverable metal, and applicable

water quality criteria for the metals are typically expressed as dissolved metal, factors or translators must be used to convert metals concentrations from total recoverable to dissolved and vice versa. In the California Toxics Rule, USEPA establishes default translators which are used in NPDES permitting activities; however, site-specific conditions such as water temperature, pH, suspended solids, and organic carbon greatly impact the form of metal (dissolved, filterable, or otherwise) which is present and therefore available in the water to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives.

As site-specific translators have not been developed for Calera Creek, the Regional Water Board has used default translators established by the CTR at 40 CFR 131.38 (b) (2), Table 2 to conduct the reasonable potential analysis and calculate WQBELs, when necessary.

**i. Interim Limitations and Compliance Schedules**

- (1) Pursuant to Section 2.1.1 of the SIP, "the compliance schedule provisions for the development and adoption of a TMDL only apply when: (a) the Dischargers request and demonstrates that it is infeasible for the Dischargers to achieve immediate compliance with a CTR criterion; and (b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the Regional Water Board should consider the Discharger's contribution to current loadings and the Discharger's ability to participate in TMDL development."
- (2) The SIP and the Basin Plan authorize compliance schedules in a permit if an existing Discharger cannot immediately comply with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR WQC are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from NTR and Basin Plan WQOs are based on the Basin Plan. Both the SIP and the Basin Plan require the Dischargers to demonstrate the infeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule.

The SIP and Basin Plan require the following documentation to be submitted to the Regional Water Board to support a finding of infeasibility:

- Descriptions of diligent efforts the Dischargers have made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.
- Descriptions of source control and/or pollutant minimization efforts currently under way or completed.
- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.
- A demonstration that the proposed schedule is as short as practicable.

The Basin Plan provides for a 10-year compliance schedule to implement measures to comply with new standards as of the effective date of those standards. This provision applies to the objectives adopted in the 2004 Basin Plan Amendment. Additionally, the provision authorizes compliance schedules for new interpretations of other existing standards if the new interpretation results in more stringent limitations. This latter situation applies to NTR criteria and Basin Plan objectives in place prior to the SIP. Due to the adoption of the SIP, the Regional Water Board has newly interpreted these objectives and standards. The effective date of the new interpretation is the effective date of the SIP (April 28, 2000).

- (3) On July 5, 2006, the Discharger submitted a feasibility study, asserting that it was infeasible to immediately comply with the WQBELs, calculated according to SIP Section 1.4, for copper, mercury, cyanide and bis(2-ethylhexyl)phthalate. The Regional Water Board concurs that it is infeasible to achieve immediate compliance with final effluent limitations for bis(2-ethylhexyl)phthalate and therefore, interim limitations and compliance schedules are established by the Order for bis (2-ethylhexyl) phthalate. The Regional Water Board, however, believes that it is feasible to comply with final effluent limits for copper, mercury and cyanide. However, the Water Board is allowing the Discharger to perform a Translator Special Study that might result in less stringent final effluent limits for copper. A maximum of two years from the issuance of this permit is allowed for the special study and amendment of the permit, if appropriate. Therefore, the final effluent limits calculated for copper will serve as interim limits for a period of two years from the date the permit becomes effective. If the permit is not amended within that time to change these limits then they will become final limits.
- (4) Interim limitations for bis(2-ethylhexyl)phthalate shall remain in effect until May 18, 2010, or until the Regional Water Board amends the limitation(s) based on site-specific objectives.
- (5) This Order establishes a schedule for compliance with final effluent limitations for bis(2-ethylhexyl)phthalate that extends beyond one year. Pursuant to the SIP and 40 CFR 122.47, the Regional Water Board must establish interim numeric limitations and interim requirements to control these pollutants. This Order establishes interim limitations for bis(2-ethylhexyl)phthalate based on existing treatment plant performance. The compliance schedule includes interim requirements and deadlines for meeting those requirements.

### **3. Determining the Need for WQBELs.**

NPDES regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for all pollutants (non-priority or priority) "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard" (have Reasonable Potential). Thus, assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data, receiving water's

designated uses, and/or previous permit pollutant limitations to determine Reasonable Potential. For priority pollutants, Regional Water Board staff used the methods prescribed in Section 1.3 of the SIP to determine if the discharge from Discharge Point 001 demonstrates Reasonable Potential.

- a. **Reasonable Potential for Non-Priority Pollutants.** For the following non-priority pollutants, Regional Water Board staff assessed available monitoring data, receiving water's designated uses, and/or previous permit pollutant limitations to determine Reasonable Potential.

- (1) Ammonia. The WQBELs for ammonia shown in Table F-8 are retained from Order No. 99-066.

**Table F-8. Effluent Limitations for Ammonia – Order No. 99-066**

	Units	Daily Maximum	Monthly Average
Dry Season (June – Sept)	mg/l	5	2
Wet Season (Oct – May)	mg/l	10	5

These limitations were derived using USEPA methods presented in *Ambient Water Quality Criteria for Ammonia* [EPA 440/5-85-001 (1984) and EPA 822 R-98 008 (1998)]. The purpose of these limitations is to limit the contribution of nutrients from treated wastewater to the Calera Creek Wetlands, and thereby maintain the net environmental benefit of discharging to the restored wetlands area. "Net environmental benefit" is currently the justification for the Discharger's exception to the Basin Plan's prohibition against discharges which do not receive a minimum initial dilution of at least 10 to 1.

- (2) Whole Effluent Toxicity. The Basin Plan requires dischargers to either conduct flow-through effluent toxicity tests or perform static renewal bioassays (Chapter 4, Acute Toxicity) to measure the toxicity of wastewaters and to assess negative impacts upon water quality and beneficial uses caused by the aggregate toxic effect of the discharge of pollutants. This Order retains effluent limitations for whole effluent acute toxicity from Order No. 01-141. Compliance evaluation must be based on flow-through bioassays performed according to the U.S. EPA-approved method in 40 CFR Part 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition."
- b. **Reasonable Potential Analysis.** Using the methods prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed available effluent data from January 1, 2001 through January 1, 2006 for the Calera Creek Water Recycling Plant to determine if the discharge demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the USEPA, the NTR, and the CTR.
- c. **Reasonable Potential Methodology.** Using the methods and procedures prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent and background

data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedances of applicable SSOs or WQC.

The RPA identifies the maximum observed effluent concentration (MEC) for each pollutant, based on effluent concentration data. There are three triggers in determining Reasonable Potential:

- (1) The first trigger is activated if the MEC is greater than the lowest applicable WQO ( $MEC \geq WQO$ ), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.
  - (2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO ( $B > WQO$ ) and the pollutant was detected in any of the effluent samples.
  - (3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.
- d. **Effluent Data.** The Regional Water Board's August 6, 2001 letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (hereinafter referred to as the Regional Water Board's August 6, 2001 Letter) to all permittees, formally required the Discharger (pursuant to CWC Section 13267) to initiate or continue to monitor for the priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed these effluent data to determine if the discharge has Reasonable Potential. The RPA for this permit was based on the effluent monitoring data collected between January 1, 2001 and January 1, 2006.
- e. **Ambient Background Data.** Ambient background values are used in the reasonable potential analysis (RPA) and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations.
- The Discharger has provided background data for eleven metals (As, Cd, Cr,  $Cr^{+6}$ , Cu, Pb, Hg, Ni, Se, Ag, and Zn) and cyanide from March 2003 through April 2006 and for the organic priority pollutants from February 2001 through August 2005.
- f. **RPA Determination.** The MECs, WQOs/WQC, basis for the WQOs/WQC, background concentrations used, and Reasonable Potential conclusions from the RPA are listed in Table F-9 for all constituents analyzed. Some of the constituents in the CTR were not determined because of the lack of an objective/criteria or effluent data. Based on the RPA methodology in the SIP, some constituents did not demonstrate Reasonable Potential. The RPA results are shown below and Appendix A of this Fact Sheet. The pollutants that

exhibit Reasonable Potential are copper; lead; mercury; cyanide; and bis(2-ethylhexyl)phthalate.

**Table F-9. Summary of RPA Results**

CTR #	Priority Pollutants	MEC or Minimum DL <sup>[a][b]</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL <sup>[a][b]</sup> (µg/L)	RPA Results <sup>[c]</sup>
1	Antimony	0.5	4300	DNQ 0.3	No
2	Arsenic	1.6	150	1.2	No
3	Beryllium	< 0.1	No Criteria	<0.06	Ud
4	Cadmium	0.12	1.4	0.36	No
5a	Chromium (III)	1.0	253	9.4	No
5b	Chromium (VI)	6.0	11.4	< 2.0	No
6	Copper	12	11.5	7.0	Yes
7	Lead	0.54	4.4	5.4	Yes
8	Mercury	0.0377	0.025	0.013	Yes
9	Nickel	5.4	64	10	No
10	Selenium	1.2	5.0	1.0	No
11	Silver	0.07	6.2	< 0.1	No
12	Thallium	0.2	6.3	DNQ 0.1	No
13	Zinc	62	148	52	No
14	Cyanide	5.2	5.2	< 3.0	Yes
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8 TCDD	< 0.00000036	0.000000014	Not Available	No
	Dioxin-TEQ	DNQ0.0000000157	0.000000014	Not Available	No
17	Acrolein	< 0.50	780	< 0.5	No
18	Acrylonitrile	< 0.33	0.66	< 0.33	No
19	Benzene	< 0.03	71	< 0.03	No
20	Bromoform	< 0.03	360	< 0.03	No
21	Carbon Tetrachloride	< 0.04	4.4	< 0.04	No
22	Chlorobenzene	< 0.03	21000	< 0.03	No
23	Chlorodibromomethane	< 0.03	34	< 0.03	No
24	Chloroethane	< 0.03	No Criteria	< 0.03	Ud
25	2-Chloroethylvinyl ether	< 0.1	No Criteria	< 0.1	Ud
26	Chloroform	0.8	No Criteria	< 0.04	Ud
27	Dichlorobromomethane	< 0.04	46	< 0.04	No
28	1,1-Dichloroethane	< 0.04	No Criteria	< 0.04	Ud
29	1,2-Dichloroethane	< 0.04	99	< 0.04	No
30	1,1-Dichloroethylene	< 0.06	3.2	Not Available	No
31	1,2-Dichloropropane	< 0.03	39	< 0.03	No
32	1,3-Dichloropropylene	< 0.03	1700	< 0.03	No
33	Ethylbenzene	< 0.04	29000	< 0.04	No
34	Methyl Bromide	< 0.05	4000	< 0.05	No
35	Methyl Chloride	< 0.04	No Criteria	< 0.04	Ud
36	Methylene Chloride	< 0.07	1600	< 0.07	No
37	1,1,2,2-Tetrachloroethane	< 0.04	11	< 0.04	No
38	Tetrachloroethylene	< 0.06	8.85	< 0.06	No
39	Toluene	< 0.06	200000	< 0.06	No
40	1,2-Trans-Dichloroethylene	< 0.05	140000	< 0.05	No
41	1,1,1-Trichloroethane	< 0.03	No Criteria	< 0.03	Ud
42	1,1,2-Trichloroethane	< 0.05	42	< 0.05	No
43	Trichloroethylene	< 0.05	81	< 0.05	No
44	Vinyl Chloride	< 0.05	525	< 0.05	No
45	2-Chlorophenol	< 0.4	400	< 0.4	No

CTR #	Priority Pollutants	MEC or Minimum DL <sup>[a][b]</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL <sup>[a][b]</sup> (µg/L)	RPA Results <sup>[c]</sup>
46	2,4-Dichlorophenol	< 0.3	790	< 0.3	No
47	2,4-Dimethylphenol	< 0.3	2300	< 0.3	No
48	2-Methyl- 4,6-Dinitrophenol	< 0.4	765	< 0.4	No
49	2,4-Dinitrophenol	< 0.3	14000	< 0.3	No
50	2-Nitrophenol	< 0.3	No Criteria	< 0.3	Ud
51	4-Nitrophenol	< 0.2	No Criteria	< 0.2	Ud
52	3-Methyl 4-Chlorophenol	< 0.3	No Criteria	< 0.3	Ud
53	Pentachlorophenol	< 0.4	8.2	< 0.4	No
54	Phenol	Not Available	4600000	< 0.2	No
55	2,4,6-Trichlorophenol	< 0.2	6.5	< 0.2	No
56	Acenaphthene	< 0.03	2700	< 0.029	No
57	Acenaphthylene	< 0.02	No Criteria	< 0.019	Ud
58	Anthracene	< 0.03	110000	< 0.029	No
59	Benzidine	< 0.3	0.00054	< 0.3	No
60	Benzo(a)Anthracene	< 0.02	0.049	< 0.019	No
61	Benzo(a)Pyrene	< 0.02	0.049	< 0.019	No
62	Benzo(b)Fluoranthene	< 0.03	0.049	< 0.029	No
63	Benzo(ghi)Perylene	< 0.03	No Criteria	< 0.029	Ud
64	Benzo(k)Fluoranthene	< 0.04	0.049	< 0.038	No
65	Bis(2-Chloroethoxy)Methane	< 0.3	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	< 0.3	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.3	170000	< 0.6	No
68	Bis(2-Ethylhexyl)Phthalate	15	5.9	< 0.3	Yes
69	4-Bromophenyl Phenyl Ether	< 0.4	No Criteria	< 0.4	Ud
70	Butylbenzyl Phthalate	< 0.4	5200	< 0.4	No
71	2-Chloronaphthalene	< 0.3	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.4	No Criteria	< 0.4	Ud
73	Chrysene	< 0.04	0.049	< 0.038	No
74	Dibenzo(a,h)Anthracene	< 0.03	0.049	< 0.029	No
75	1,2-Dichlorobenzene	< 0.03	17000	< 0.03	No
76	1,3-Dichlorobenzene	< 0.03	2600	< 0.03	No
77	1,4-Dichlorobenzene	< 0.04	2600	< 0.06	No
78	3,3 Dichlorobenzidine	< 0.2	0.077	< 0.3	No
79	Diethyl Phthalate	< 0.4	120000	< 0.4	No
80	Dimethyl Phthalate	< 0.4	2900000	< 0.4	No
81	Di-n-Butyl Phthalate	< 0.3	12000	< 0.4	No
82	2,4-Dinitrotoluene	< 0.3	9.1	< 0.3	No
83	2,6-Dinitrotoluene	< 0.3	No Criteria	< 0.3	Ud
84	Di-n-Octyl Phthalate	< 0.4	No Criteria	< 0.4	Ud
85	1,2-Diphenylhydrazine	< 0.3	0.54	< 0.3	No
86	Fluoranthene	< 0.03	370	< 0.029	No
87	Fluorene	< 0.02	14000	< 0.02	No
88	Hexachlorobenzene	< 0.4	0.00077	< 0.4	No
89	Hexachlorobutadiene	< 0.2	50	< 0.2	No
90	Hexachlorocyclopentadiene	< 0.1	17000	< 0.1	No
91	Hexachloroethane	< 0.2	8.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.03	0.049	< 0.029	No
93	Isophorone	< 0.3	600	< 0.3	No
94	Naphthalene	< 0.02	No Criteria	< 0.019	Ud
95	Nitrobenzene	< 0.3	1900	< 0.3	No
96	N-Nitrosodimethylamine	< 0.4	8.1	< 0.4	No
97	N-Nitrosodi-n-Propylamine	< 0.3	1.4	< 0.3	No

CTR #	Priority Pollutants	MEC or Minimum DL <sup>(a)(b)</sup> (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL <sup>(a)(b)</sup> (µg/L)	RPA Results <sup>(c)</sup>
98	N-Nitrosodiphenylamine	< 0.4	16	< 0.4	No
99	Phenanthrene	< 0.03	No Criteria	< 0.029	Ud
100	Pyrene	< 0.03	11000	< 0.029	No
101	1,2,4-Trichlorobenzene	< 0.3	No Criteria	< 0.3	Ud
102	Aldrin	< 0.003	0.00014	< 0.0029	No
103	alpha-BHC	< 0.002	0.013	< 0.002	No
104	beta-BHC	< 0.001	0.046	< 0.001	No
105	gamma-BHC	< 0.001	0.063	< 0.001	No
106	delta-BHC	< 0.001	No Criteria	< 0.001	Ud
107	Chlordane	< 0.005	0.00059	< 0.005	No
108	4,4'-DDT	< 0.001	0.00059	< 0.001	No
109	4,4'-DDE	< 0.001	0.00059	< 0.001	No
110	4,4'-DDD	< 0.001	0.00084	< 0.001	No
111	Dieldrin	< 0.002	0.00014	< 0.0019	No
112	alpha-Endosulfan	< 0.002	0.56	< 0.0019	No
113	beta-Endosulfan	< 0.001	0.056	< 0.001	No
114	Endosulfan Sulfate	< 0.001	240	< 0.001	No
115	Endrin	< 0.002	0.0023	< 0.0019	No
116	Endrin Aldehyde	< 0.002	0.81	< 0.002	No
117	Heptachlor	< 0.003	0.00021	< 0.0029	No
118	Heptachlor Epoxide	< 0.002	0.00011	< 0.0019	No
119-125	PCBs sum	< 0.03	0.00017	< 0.029	No
126	Toxaphene	< 0.15	0.00020	< 0.14	No
	Tributyltin	Not Available	No Criteria	Not Available	Ud
	Total PAHs	Not Available	No Criteria	Not Available	Ud

[a] The Maximum Effluent Concentration (MEC) or maximum background concentration is the actual detected concentration unless there is a "<" sign before it, in which case the value shown is the minimum detection level or a "DNQ" before it, in which case the value shown is detected but not quantifiable.

[b] The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

[c] RPA Results = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;  
 = No, if MEC and B are < WQO/WQC or all effluent data are undetected;  
 = Undetermined (Ud), if no criteria have been promulgated;  
 = Cannot Determine, if there are insufficient data.

- (1) Constituents with limited data. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.
- (2) Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

The previous permit (Order No. 99-066) included WQBELs for chromium, selenium, and zinc; however, because the reasonable potential analysis showed that discharges



from the Calera Creek Water Recycling Plant no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for these pollutants, limitations from the previous permit are not retained and new limitations are not included in this Order.

Elimination of WQBELs for chromium, selenium, and zinc in this Order satisfies the exception to anti-backsliding requirements expressed at Section 402 (o) (2) (B) (i) of the Clean Water Act, which allows a reissued permit to include less stringent limitations when "information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods), and which would have justified the application of a less stringent effluent limitation at the time of permit issuance." In these circumstances, less stringent limitations (here, the elimination of limitations) are based on new data, which was generated during the term of Order No. 99-066, and which demonstrates no reasonable potential for discharges from the facility to cause or contribute to exceedances of applicable water quality standards for these pollutants.

#### 4. WQBEL Calculations.

WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC. The WQBELs were calculated based on appropriate WQOs/WQC and the appropriate procedures specified in Section 1.4 of the SIP. A summary of these effluent limitation calculations is shown as Tables F-10 and F-11 at the end of this section.

##### a. Copper

- (1) *Copper WQC.* The fresh water, chronic and acute criteria from the Basin Plan and the CTR for copper for protection of aquatic life are 11.5 and 17.7  $\mu\text{g/l}$ , respectively. These criteria are based on a receiving water hardness of 128 mg/L  $\text{CaCO}_3$  and were determined using default translators established by the CTR at 40 CFR 131.38 (b) (2), Table 2. The criteria of 11.5  $\mu\text{g/l}$  for chronic protection and 17.7  $\mu\text{g/l}$  for acute protection were used to perform the RPA and to calculate effluent limitations.
- (2) *RPA Results.* This Order establishes effluent limitations for copper, as the maximum observed effluent concentration of 12  $\mu\text{g/l}$  exceeds the applicable chronic water quality criterion for this pollutant, demonstrating reasonable potential by Trigger 1 of the RPA.
- (3) *Copper WQBELs.* Final WQBELs for copper, calculated according to SIP procedures and using effluent data generated during the term of Order No. 99-066 (coefficient of variation = 0.36), are 10 and 16  $\mu\text{g/l}$  – the average monthly and maximum daily effluent limitations, respectively.
- (4) *Limits in the Previous Order.* Order No. 99-066 included a final, daily maximum effluent limitation for copper of 9.3  $\mu\text{g/l}$ . This Order replaces this limit with a daily maximum effluent limit of 16  $\mu\text{g/l}$  and an average monthly effluent limit of 10  $\mu\text{g/l}$ .

These limits are based on updated hardness data and the current SIP methodology for calculating WQBELs.

- (5) *Immediate Compliance Feasible.* The Discharger occasionally had difficulty complying with the copper limit in Order No. 99-066. Regional Water Board staff examined the Discharger's effluent data from January 1, 2001, through January 1, 2006, and performed a statistical analysis of the data to determine the 95th and 99th percentile of the data set. The data set was determined to be log-normally distributed. Comparison of the 95th percentile with the AMEL (9.0 µg/l vs. 10.2 µg/l) and the 99th percentile with the MDEL (11.3 µg/l vs. 16.4 µg/l) and the mean with the long term average (5.5 mg/L vs. 7.7 mg/L) shows that the Discharger can meet the final limitations. Furthermore, comparison of the 99<sup>th</sup> percentile with the previous permit limit (11.3 µg/l vs. 9.3 µg/l) verifies that the Discharger could not comply with the previous limit. Therefore, the Regional Water Board concludes that immediate compliance with new effluent limitations for copper is feasible.
- (6) *Anti-backsliding / Antidegradation.* This Order's WQBELs are higher than the limit in Order No. 00-066. However, because the Discharger was unable to comply with the previous Order's limits, adopting these new limits does not constitute backsliding or degradation. The new limits, based on new hardness data, protect beneficial uses because they were derived using the current SIP methodology. As such, the new limits are consistent with State anti-backsliding and anti-degradation requirements, as well as those of the Clean Water Act.

b. **Lead**

- (1) *Lead WQC.* The fresh water, chronic and acute criteria from the Basin Plan and the CTR for lead for protection of aquatic life are 4.4 and 112 µg/l, respectively. These criteria are based on a receiving water hardness of 128 mg/L CaCO<sub>3</sub> and were determined using default translators established by the CTR at 40 CFR 131.38 (b)(2), Table 2. The criteria of 4.4 µg/l for chronic protection and 112 µg/l for acute protection were used to perform the RPA and to calculate effluent limitations.
- (2) *RPA Results.* This Order establishes effluent limitations for lead because the maximum observed background concentration of 5.4 µg/l exceeds the applicable chronic water quality criterion for this pollutant, and because lead was present at a detectable concentration (0.54 µg/l) in effluent, thereby demonstrating reasonable potential by Trigger 2 of the RPA.
- (3) *Lead WQBELs.* Final WQBELs for lead, calculated according to SIP procedures and using effluent data generated during the term of Order No. 99-066 (coefficient of variation = 0.31), are 3.9 and 6.0 µg/l – the average monthly and maximum daily effluent limitations, respectively.
- (4) *Limits in the Previous Order.* Order No. 99-066 included a final, daily maximum effluent limitation for lead of 3.2 µg/l. Because this limitation is more stringent than newly calculated limitations, it is retained by this Order.

- (5) *Immediate Compliance Feasible.* The discharger was able to comply with the final lead limitation of the previous Order.
- (6) *Anti-backsliding / Antidegradation.* Because the reissued permit retains effluent limitations for lead from Order No. 99-066, limitations for lead in this Order are consistent with State and Regional anti-backsliding and anti-degradation requirements, as well as those of the Clean Water Act.

c. **Mercury**

- (1) *Mercury WQC.* The fresh water, chronic and acute criteria from the Basin Plan for mercury for protection of aquatic life are 0.025 and 2.4 µg/l, respectively. These criteria were used to perform the RPA and to calculate effluent limitations.
- (2) *RPA Results.* This Order establishes effluent limitations for mercury because the maximum observed effluent concentration of 0.038 µg/l exceeds the applicable chronic water quality criterion for this pollutant, demonstrating reasonable potential by Trigger 1 of the RPA.
- (3) *Mercury WQBELs.* Final WQBELs for mercury, calculated according to SIP procedures and using effluent data generated during the term of Order No. 99-066 (coefficient of variation = 1.23), are 0.017 and 0.046 µg/l – the average monthly and maximum daily effluent limitations, respectively.
- (4) *Limits in the Previous Order.* Order No. 99-066 included a final, daily maximum effluent limitation for mercury of 0.025 µg/l. Because this limitation is less stringent than newly calculated limitations, it is not retained by this Order.
- (5) *Immediate Compliance Feasible.* Regional Water Board staff examined the Discharger's effluent data from January 1, 2001 through January 1, 2006 and performed a statistical analysis of the data to determine the 95th and 99th percentile of the data set. Here, the data set was determined to be log-normally distributed. Comparison of the 95th percentile with the AMEL (0.016 µg/l versus 0.017 µg/l) and the 99th percentile with the MDEL (0.028 µg/l versus 0.046 µg/L) and the mean with the long term average (0.0056 µg/l versus 0.0079 µg/l) shows that the Discharger can meet the final limitations, and therefore, the Regional Water Board concludes that immediate compliance with new effluent limitations for mercury is feasible.
- (6) *Anti-backsliding / Antidegradation.* As the reissued permit includes more stringent effluent limitations for mercury than in the previous permit, this Order is consistent with State and Regional anti-backsliding and antidegradation requirements, as well as those of the Clean Water Act.

d. **Cyanide**

- (1) *Cyanide WQC.* The NTR includes WQC for cyanide applicable to inland fresh waters that are not designated as domestic and municipal supplies. Criteria from the NTR, which are applicable to Calera Creek, are 22 µg/l, a Criterion Maximum

Concentration (acute criterion), and 5.2 µg/l, a Criterion Chronic Concentration (chronic criterion).

- (2) *RPA Results.* This Order establishes effluent limitations for cyanide because the 5.2 µg/l MEC is equal to the most stringent applicable criterion, demonstrating reasonable potential by Trigger 1 of the RPA procedure.
- (3) *Cyanide WQBELs.* The cyanide WQBELs calculated according to SIP procedures and using effluent data generated during the term of Order No. 99-066 (coefficient of variation = 0.43) are 7.8 µg/l maximum daily and 4.5 µg/l average monthly.
- (4) *Limits in the Previous Order.* Order No. 99-066 included a final daily maximum effluent limitation of 5.2 µg/l. This Order replaces this limit with a daily maximum effluent limitation of 7.8 µg/l and an average monthly effluent limitation of 4.5 µg/l. These limits are based on the current SIP methodology for calculating WQBELs.
- (5) *Immediate Compliance Feasible.* Regional Water Board staff examined the Discharger's effluent data from January 1, 2001 through January 1, 2006 and performed a statistical analysis of the data to determine the 95th and 99th percentile of the data set. The data set was determined to be normally distributed. Comparison of the 95th percentile with the AMEL (4.4 µg/l vs. 5.0 µg/l) and the 99th percentile with the MDEL (5.4 µg/l vs. 6.4 µg/l) and the mean with the long term average (2.1 µg/l vs. 3.2 µg/l) shows that the Discharger can meet the final limitations. Therefore, the Regional Water Board concludes that immediate compliance with new effluent limitations for cyanide is feasible.
- (6) *Anti-backsliding/Antidegradation.* This Order's WQBELs are consistent with State anti-backsliding and anti-degradation requirements, as well as those of the Clean Water Act. Although the new maximum daily limit is higher than that of the previous Order's mercury daily average limitation (5.2 µg/l), the new WQBELs derived using the SIP procedures are considered to be more protective of water quality. The AMEL will limit the discharge to a lower long-term average level than the previous permit limitation which only limited the daily average concentration of the effluent, and as a result the Discharger could, in practice, discharge an effluent with a long-term average at the previous daily average level. The new WQBELs are, therefore, considered to be more stringent, and are established as the new WQBELs average monthly effluent limit is more stringent and will control cyanide discharges to a more stringent long term average. The new limits protect beneficial uses because they were derived using the current SIP methodology.

**e. Bis(2-ethylhexyl)phthalate**

- (1) *Bis(2-ethylhexyl)phthalate WQC.* The most stringent applicable water quality criterion for bis(2-ethylhexyl)phthalate is 5.9 µg/l, established by the CTR for protection of human health. The criterion of 5.9 µg/l was used to perform the RPA and to calculate effluent limitations.
- (2) *RPA Results.* This Order establishes effluent limitations for bis(2-ethylhexyl)phthalate, as the maximum observed effluent concentration of 15 µg/l

exceeds the applicable water quality criterion for this pollutant, demonstrating reasonable potential by Trigger 1 of the RPA.

- (3) *Bis(2-ethylhexyl)phthalate WQBELs*. Final WQBELs for bis(2-ethylhexyl)phthalate, calculated according to SIP procedures, are 6.0 and 15 µg/L – the average monthly and maximum daily effluent limitations, respectively.
- (4) *Limits in the Previous Order*. Order No. 99-096 did not contain a bis(2-ethylhexyl)phthalate
- (5) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with the final WQBELs for bis(2-ethylhexyl)phthalate. Regional Water Board staff examined the Discharger's effluent data from January 1, 2001 through January 1, 2006 and performed a statistical analysis of the data to determine the 95th and 99th percentile of the data set. Here, the data set was determined to be normally distributed. Comparison of the 95th percentile with the AMEL (13.4 µg/L versus 6.0 µg/L) and the 99th percentile with the MDEL (17.2 µg/L vs 15 µg/L) shows that the Discharger cannot meet the final limitations, and therefore, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply. Therefore, final WQBELs are not included in this Order.
- (6) *Anti-backsliding/Antidegradation*. Because the previous permit does not establish final effluent limitations for bis(2-ethylhexyl)phthalate, this Order is consistent with State anti-backsliding and anti-degradation requirements, as well as those of the Clean Water Act.

**Table F-10. Summary of Effluent Limitation Calculations for Copper, Lead and Mercury**

Priority Pollutants	Copper	Lead	Mercury
Basis and Criteria type	BP & CTR Fresh Water Aquatic Life	BP & CTR Fresh Water Aquatic Life	BP Fresh Water Aquatic Life
Lowest WQO	11.5	4.4	0.025
Acute Translator	0.96	0.755	---
Chronic Translator	0.96	0.755	---
Dilution Factor (D) (if applicable)	0	0	0
Number of samples per month	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y
Human Health criteria analysis required? (Y/N)	N	N	N
Applicable Acute WQO	17.6	112	2.4
Applicable Chronic WQO	11.5	4.4	0.025
Human Health criteria	---	---	0.051
Background (max conc. for Aquatic Life calc)	7.0	5.4	0.013
Background (avg. conc. for HH calc)	---	---	---
Is the pollutant Bioaccumulative (Y/N)? (e.g., Hg)	N	N	Y
ECA acute	17.6	112	2.4

Priority Pollutants	Copper	Lead	Mercury
ECA chronic	11.5	4.4	0.025
ECA Human Health	---	---	0.051
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N	N
Average of data	5.523	0.282	0.006
Standard Deviation	1.987	0.0882	0.007
Coefficient of Variation calculated	0.36	0.313	1.225
CV (Selected) – Final	0.36	0.313	1.225
ECA acute mult99	0.472	0.515	0.171
ECA chronic mult99	0.671	0.705	0.316
LTA acute	8.34	57.6	0.409
LTA chronic	7.73	3.07	0.00789
minimum of LTAs	7.73	3.07	0.00789
AMEL mult95	1.32	1.28	2.16
MDEL mult99	2.12	1.94	5.86
AMEL (aquatic life)	10	3.9	0.017
MDEL (aquatic life)	16	6.0	0.046
MDEL/AMEL Multiplier	---	---	---
AMEL (human health)	---	---	---
MDEL (human health)	---	---	---
minimum of AMEL for Aq. life vs HH	10	3.9	0.017
minimum of MDEL for Aq. Life vs HH	16	6.0	0.046
Current limit in permit (30-d avg)	---	---	---
Current limits in permit (daily average)	9.3	3.2	0.025
Final limit - AMEL	16	3.2	0.017
Final limit - MDEL	10	6.0	0.046
Max Effluent Concentration (MEC)	12	0.54	0.0377

BP – Basin Plan  
 CTR – California Toxics Rule  
 WQO – Water quality objective  
 HH – Human health  
 ECA – Effluent concentration allowance  
 CV – Coefficient of variation  
 LTA – Long term average  
 AMEL – Average monthly effluent limitation  
 MDEL – Maximum daily effluent limitation

**Table F-11. Summary of Effluent Limitation Calculations for Cyanide and Bis(2-ethylhexyl)phthalate**

Priority Pollutants	Cyanide	Bis(2-ethylhexyl) Phthalate
Basis and Criteria type	NTR Fresh Water Aquatic Life	Basin Plan Human Health
Lowest WQO	5.2	5.9
Acute Translator	---	---
Chronic Translator	---	---
Dilution Factor (D) (if applicable)	0	0
No. of samples per month	4	4
Aquatic life criteria analysis required? (Y/N)	Y	N
HH criteria analysis required? (Y/N)	N	Y
Applicable Acute WQO	25	---
Applicable Chronic WQO	5.2	---
HH <sup>[c]</sup> criteria	220,000	5.9
Background (max conc for Aquatic Life calc)	3.0	---
Background (avg conc for HH calc)	---	0.0
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	N
ECA acute	22	---
ECA chronic	5.2	---
ECA HH	220,000	5.9
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	N
Average of data	2.10	4.68
Standard Deviation	1.42	5.09
CV <sup>[e]</sup> calculated	0.429	1.09
CV <sup>[e]</sup> (Selected) - Final	0.429	1.09
ECA acute mult99	0.418	0.219
ECA chronic mult99	0.624	0.395
LTA acute	9.20	---
LTA chronic	3.25	---
minimum of LTAs	3.25	---
AMEL mult95	1.39	1.87
MDEL mult99	2.39	4.58
AMEL (aq life)	4.5	---
MDEL (aq life)	7.8	---
MDEL/AMEL Multiplier	---	2.45
AMEL (human hlth)	---	6.0
MDEL (human hlth)	---	15.4

Priority Pollutants	Cyanide	Bis(2-ethylhexyl) Phthalate
minimum of AMEL for Aq. life vs HH	4.5	6.0
minimum of MDEL for Aq. Life vs HH	7.8	15.4
Current limit in permit (30-d avg)	---	---
Current limits in permit (daily average)	5.2	---
Final limit - AMEL	4.5	6.0
Final limit - MDEL	7.8	15
Max Effl. Conc. (MEC)	5.2	15

#### D. Final Effluent Limitations

Table F-12 shows the final effluent limitations for copper, lead, mercury, cyanide, and bis(2-ethylhexyl)phthalate, established as described in this Fact Sheet.

**Table F-12. Final WQBELs**

Parameter	Units	Final Limitations	
		Daily Maximum (MDEL)	Monthly Average (AMEL)
Copper	µg/l	16	10
Lead	µg/l	6.0	3.2
Mercury	µg/l	0.046	0.017
Cyanide	µg/l	7.8	4.5
Bis(2-ethylhexyl) phthalate	µg/l	15	6.0
<sup>(1)</sup> Final limitations for copper may be amended during the expected term of the Order depending on a Translator Special Study.			

#### E. Interim Effluent Limitations

Because it is infeasible for the Discharger to immediately comply with the final WQBELs for bis(2-ethylhexyl)phthalate, an interim effluent limitation is required. Regional Water Board staff considered the Discharger's effluent data from January 1, 2001 through January 1, 2006 and established the 99.87th percentile of the data set (21 µg/l) as a maximum daily, interim effluent limitation.

The bis(2-ethylhexyl)phthalate interim limitation shall remain in effect until May 18, 2010 or until the Regional Water Board amends the limitations based on additional data or an site specific objectives, as discussed in Section IV. C. 2. i, Interim Limitations and Compliance Schedules, of this Fact Sheet.

A Translator Special Study has been proposed by the Discharger. Based on the results of this study, within two years of the reissuance of this permit, the final limits for metals may change. Until then, up to two years from reissuance the final limits for copper in this Order shall serve as interim limits.



**F. Land Discharge Specifications**

Not Applicable.

**G. Reclamation Specifications**

Not Applicable.

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

**A. Surface Water Limitations**

These limitations are in the previous permit and are based on the narrative/numerical objectives contained in Chapter 3 of the Basin Plan.

**B. Groundwater**

Not Applicable.

**VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

The principal purposes of a monitoring program by a discharger are to:

1. Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
2. Facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,
3. Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and to
4. Prepare water and wastewater quality inventories.

40 CFR 122.48 requires all NPDES permits to specify recording and reporting of monitoring results. CWC Sections 13267 and 13383 authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the Calera Creek Water Recycling Plant.

The Monitoring and Reporting Program is a standard requirement in NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. It also contains a sampling program specific for this facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide on-going characterization of influent, effluent, and receiving waters.

### **A. Influent Monitoring**

The following bulleted text summarizes influent monitoring requirements in the Monitoring and Reporting Program accompanying this Order, including changes from the previous Program.

- Influent monitoring requirements for BOD<sub>5</sub> and TSS are retained by this Order to allow determination of treatment removals (percent). Order No. 99-066 contained a provision to reduce influent monitoring to one time per week, if the data over two years showed no exceedances of effluent limitations. Data from the most recent two years supports a weekly monitoring requirement for these pollutants. Twice monthly monitoring for oil and grease is also retained.
- Influent monitoring requirements for metals (As, Cd, Cr<sup>6</sup>, Cu, Pb, Hg, Ni, Se, Ag, and Zn) and cyanide have not been retained, as the Discharger is not given credit for intake concentrations and compliance is determined by effluent monitoring.

### **B. Effluent Monitoring**

The following bulleted text summarizes effluent monitoring requirements in the Monitoring and Reporting Program, which accompanies this Order, including changes from the previous Program.

- Effluent monitoring requirements for the following pollutants are retained from the previous Order: flow, BOD<sub>5</sub> and TSS (one time per week), oil and grease, turbidity, acute toxicity, nutrients (ammonia, nitrate, total organic nitrogen, and total phosphate), sulfides, and fecal coliform bacteria.
- Effluent monitoring for dissolved oxygen, pH, and temperature is no longer required in 24 hour composite samples, as results may not be representative of effluent, when samples are composited over a 24 hour period. Grab samples of effluent are required for monitoring these parameters.
- Most specific requirements pertaining to monitoring of toxic pollutants have not been retained. Provision VI.C.2.b of the Order, instead, requires the Discharger to monitor and evaluate receiving water and the discharge for the constituents listed in Enclosure A of the Water Board's August 6, 2001 Letter, according to the sampling frequency specified in the attached Monitoring and Reporting Program (Attachment E). The August 6, 2001 letter was sent to all dischargers in the San Francisco Bay Region pursuant to CWC Section 13267 and required the Discharger to prepare a Sampling Plan and to conduct monitoring of receiving water and effluent for toxic pollutants to provide on-going characterization.
- Effluent monitoring is required one time per month for copper, cyanide, lead, and mercury and one time per quarter for bis(2-ethylhexyl)phthalate – toxic pollutants which are specifically limited by this Order..

### **C. Whole Effluent Toxicity Testing Requirements**

The Basin Plan requires dischargers to conduct flow-through effluent toxicity tests (Chapter 4, Acute Toxicity) to measure the toxicity of wastewaters and to assess negative impacts upon water

quality and beneficial uses caused by the aggregate toxic effect of the discharge of pollutants. This Order includes effluent limitations for whole effluent acute toxicity. All tests shall be performed according to the U.S. EPA-approved method in 40 CFR Part 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition." The Basin Plan (Pages 4 – 9) allows for use of just one fish species if the Discharger can demonstrate the acute toxicity limit has not been exceeded in the past three years or that toxicity has been observed in only one species. The Discharger conducted acute toxicity testing with both Fathead Minnow (*Pimephales promelas*) and Rainbow Trout (*Oncorhynchus mykiss*) and compared the results over dry weather and wet weather periods. The Discharger submitted the results of these tests (January 23, 2003) to the Water Board. These showed that there was no toxicity and that the results from both species was essentially identical. The Discharger requested that just one species (Rainbow trout) be used for testing since they were easier to handle. The Regional Water Board finds that the Discharger has met the conditions in the Basin Plan for using a single species and thus approves the Discharger's request in this Order.

This Order requires that the Discharger continue its effluent toxicity monitoring efforts as part of the compliance requirements. This requirement is based on the Basin Plan and BPJ.

Due to the high level of treatment and the lack of industrial sources, little or no chronic toxicity is expected. However, since this discharge does not receive initial dilution and it discharges to a sensitive wetlands, and has not previously been tested for chronic toxicity, Chronic Toxicity Screening is required to determine what chronic toxicity requirements are warranted in future permits.

#### **D. Receiving Water Monitoring**

1. **Surface Water.** The Monitoring and Reporting Program retains most monitoring requirements at monitoring locations C-1, C-2, C-3, and C-4; however, specific monitoring requirements for toxic pollutants are not included in the Program. Instead, provision VI. C. 2. b of the Order requires the Discharger to adhere to its Sampling Plan for toxic pollutants, approved pursuant to the Regional Water Board's letter of August 6, 2001.

2. **Groundwater**

Not Applicable.

#### **E. Other Monitoring Requirements**

None.

### **VII. RATIONALE FOR PROVISIONS**

#### **A. Standard Provisions (Provision VI. A).**

Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D and G of this Order.

## **B. Monitoring and Reporting Requirements (Provision VI. B).**

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the the MRP (Attachment E), Standard Provisions and SMP, Part A (Attachment G) of the Permit. This provision requires compliance with these documents, and is based on 40 CFR 122.63. The Standard Provisions and SMP, Part A are standard requirements in almost all NPDES permits issued by the Regional Water Board, including this Order. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The Monitoring and Reporting Program contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of Reasonable Potential Analyses for them.

## **C. Special Provisions (Provision VI. C).**

1. **Re-opener Provisions.** These provisions are based on 40 CFR 123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.
2. **Special Studies and Additional Monitoring Requirements**
  - a. **Wetland Monitoring.** This provision, which requires the discharger to continue to conduct wetlands monitoring is based on the previous permit and the California Coastal Commission Permit (Mos. 1-95-40 and 1-95-59).
  - b. **Characterization of Receiving Water and Effluent for Toxic Pollutants.** This provision, which requires the Discharger to continue to conduct effluent and receiving water monitoring, is based on the SIP, the August 6, 2001 letter for priority pollutant monitoring and the Basin Plan. This Order does not include effluent limitations for the selected constituents addressed in the August 6, 2001 letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue effluent monitoring for these pollutants as described in the August 6, 2001 letter and as specified in the Monitoring and Reporting Program of this Order. Continued ambient background monitoring is necessary to track the quality of the receiving water so as to provide an up-to-date basis for establishing effluent limitations and requirements in the next NPDES permit reissuance.
  - c. **Chronic Toxicity Screening.** With the high level of treatment and the lack of industrial sources, little or no chronic toxicity is expected. However, since this discharge does not receive initial dilution, discharges to a sensitive wetlands, and has not previously been tested for chronic toxicity, it is appropriate to require Chronic Toxicity Screening to determine what chronic toxicity requirements are warranted in future permits.

### 3. Best Management Practices and Pollutant Minimization Program

This provision is based on Chapter 4 of the Basin Plan, page 4-25 – 4-28, and Sections 2.2.1 2.4.5 of the SIP. Furthermore, for bis(2-ethylhexyl)phthalate, implementation of pollutant minimization is based on Section 2.1 of the SIP because a compliance schedule is granted for this pollutant. The Water Board recognizes that phthalate is a component of a wide range of consumer and industrial plastics and that its presence in effluent samples may be caused by contamination by containers and equipment used for sampling and analysis. Sampling methods will be adjusted to eliminate contact with potentially contaminating plastic. If the resulting data indicate that the phthalate has been introduced by environmental pollution, then efforts will be directed towards minimizing these sources.

### 4. Technical Reports – bis(2-ethylhexyl)phthalate

Compliance schedules are established based on Section 2.1 of the SIP for limits derived from CTR WQC or based on the Basin Plan for limits derived from the Basin Plan WQOs. If an existing Discharger cannot immediately comply with a new and more stringent effluent limitation, the SIP and the Basin Plan authorize a compliance schedule in the permit. To qualify for a compliance schedule, both the SIP and Basin Plan require that the following information be submitted to the Regional Water Board to support a finding of infeasibility:

- a. documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
- b. documentation of source control and/or pollution minimization efforts currently under way or completed;
- c. a proposed schedule for additional or future source control measures, pollutant minimization or waste treatment; and
- d. a demonstration that the proposed schedule is as short as practicable.

This Order establishes a compliance schedule for bis(2-ethylhexyl)phthalate that extends beyond one year, until May 18, 2010. Pursuant to the SIP and 40 CFR 122.47, the Regional Water Board must establish an interim numeric limitation and interim requirements to control this pollutant. This Order establishes interim limits for this pollutant based on the previous permit limits or existing plant performance, whichever is more stringent. The Regional Water Board may take appropriate enforcement actions if interim limitations and requirements are not met. The bis(2-ethylhexyl)phthalate interim limitation shall remain in force until May 18, 2010, or until the Regional Water Board amends the limitations based on additional data or site-specific objectives.

### 5. Translator Special Study

The RPA and Final Limit calculations for metals in this permit were conducted using U.S.EPA default translators (conversion factors) to the dissolved water quality criteria. The purpose of these translators is to adjust the numerical limits based on conditions that include water temperature, pH, hardness, particulates, organic carbon and concentrations of other

chemicals. These default translators cannot assume any site-specific modifiers and often result in effluent limits that can be excessively stringent or, in some cases not sufficiently stringent. The Discharger has proposed conducting a site specific translator study to determine the exact translator factor that should be used in determining final effluent limits. Details regarding this type of study are described in the SIP, Section 1.4.1. The SIP also states "while the translator study is being conducted, a final effluent limitation based on the applicable U.S. EPA conversion factor shall be included in the provisions of the permit and interim requirements shall be established." The SIP also states "Once the translator is developed by the Discharger, and approved by the Water Board, the Water Board shall reopen the permit and a new effluent limitation shall be calculated ...." Any changes to the limits described in the permit should be in place within two years from the issuance of the permit. While the translator study is being conducted, and for not more than two years from the reissuance of the permit, interim limits shall apply for copper. The values for the interim limits shall be the same as the final limits calculated using EPA default translators.

#### **6. Construction, Operation, and Maintenance Specifications**

- a. **Wastewater Facilities, Review and Evaluation, Status Reports.** This provision is based on the previous permit and the Basin Plan.
- b. **Operations and Maintenance Manual, Review and Status Reports.** This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.
- c. **Contingency Plan, Review and Status Reports.** This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

#### **7. Special Provisions for Municipal Facilities (POTWs Only)**

- a. **Pretreatment Program.** N/A
- b. **Sludge Management Practices Requirements.** This provision is based on the Basin Plan (Chapter IV) and 40 CFR Parts 257 and 503.
- c. **Sanitary Sewer Overflows and Sewer System Management Plan.** This provision is to explain the Order's requirements as they relate to the Discharger's collection system, and to promote consistency with the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ). The bases for these requirements are described elsewhere in this Fact Sheet for those requirements.

### **VIII. PUBLIC PARTICIPATION**

The San Francisco Bay Regional Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Calera Creek Water Recycling Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative waste discharge requirements. The Water Board encourages public participation in the waste discharge requirements adoption process.

**A. Notification of Interested Parties**

The Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the The San Mateo Times (published daily) on August 7, 2006.

**B. Written Comments**

The staff determinations were tentative. Interested persons were invited to submit written comments concerning these tentative waste discharge requirements. Comments were to be submitted either in person, by email or by mail to the Executive Office at the Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Water Board, written comments should have been received at the Regional Water Board offices by 5:00 p.m. 30 days after the notice was been published.

**C. Public Hearing**

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: October 11, 2006  
Time: 9:00 a.m.  
Location: Elihu Harris State Office Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA  
Contact: Derek Whitworth, (510) 622-2349, [dwhitworth@waterboards.ca.gov](mailto:dwhitworth@waterboards.ca.gov)

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, waste discharge requirements, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay) where you can access the current agenda for changes in dates and locations.

**D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final waste discharge requirements. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

**E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. 4:45 p.m., except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the waste discharge requirements and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Derek Whitworth, 510-622-2349, [dwhitworth@waterboards.ca.gov](mailto:dwhitworth@waterboards.ca.gov).



## **FACT SHEET**

### **APPENDICES**

Appendix 0 Data used in RPA Calculations (Effluent data is only in the electronic version)

Appendix 1 Applicable Water Quality Objectives/Criteria

Appendix 2 Data Input for RPA

Appendix 3 Reasonable Potential Analysis Results

Appendix 4 Calculations of Coefficients of Variation

Appendix 5 Probability Plots

Appendix 6 WQBEL Calculations

Appendix 7 Compliance Feasibility Analysis

## **FACT SHEET**

### **APPENDICES**

Appendix 0 Data used in RPA Calculations (Effluent data Electronic version only)

Appendix 1 Applicable Water Quality Objectives/Criteria

Appendix 2 Data Input for RPA

Appendix 3 Reasonable Potential Analysis Results

Appendix 4 Calculations of Coefficients of Variation

Appendix 5 WQBEL Calculations

Appendix 6 Compliance Feasibility Analysis

# INORGANIC DATA FOR UPPER DISCHARGE (UG/L) - Sample Location C-1

DATE	As	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Zn	Cr VI	CN
Apr-03	0.5	ND 0.1	1.9	2.1	0.52	0.0022	3.4	ND 2	ND 0.1	ND 10	ND 10	ND 3
May-03	0.5	ND 0.1	1.4	1.3	J 0.24	0.0014	2.2	ND 1	ND 0.1	4	ND 2	ND 3
Jun-03	0.6	ND 0.1	2.1	3.2	1.6	0.0013	4.7	J 0.8	ND 0.1	5	ND 10	ND 3
Jul-03	0.9	ND 0.1	ND 0.5	1.5	J .055	0.0025	6.7	ND 1	ND 0.1	2	ND 10	J 1.9
Aug-03	1.1	ND 0.1	ND 0.5	1.4	ND 0.25	0.003	4.3	ND 1	ND 0.1	J 0.9	J 1.4	ND 3
Sep-03	1.1	ND 0.1	1.7	2.2	2.9	0.0021	6.2	J 0.5	ND 0.1	5	ND 10	ND 3
Oct-03	0.9	ND 0.1	ND 0.5	1	J 0.05	0.0014	4.5	ND 1	ND 0.1	J 0.9	ND 10	ND 3
Nov-03	1	0.2	J 0.3	1.9	J 0.066	0.0013	6.6	ND 1	ND 0.1	4	ND 10	ND 3
Dec-03	0.7	ND 0.1	0.6	1.9	J 0.1	0.0022	5.3	ND 1	ND 0.1	7	ND 10	ND 3
Jan-04	ND 0.5	ND 0.1	0.6	1.5	J 0.041	0.0025	2.7	ND 1	ND 0.1	2	ND 10	ND 3
Feb-04	J 0.4	ND 0.1	1.1	1.5	J 0.19	0.0013	2.5	ND 1	ND 0.1	2	ND 10	J 1.2
Mar-04	J 0.4	J 0.03	3.1	2.4	0.92	0.0022	4.3	ND 1	ND 0.1	6	ND 10	ND 3
Apr-04	J 0.49	0.2	J 0.3	1.5	J 0.15	0.0027	2.8	J 0.6	ND 0.1	17	ND 10	J 1.2
May-04	0.6	ND 0.1	0.8	1.8	0.34	0.0008	4.1	ND 1	ND 0.1	5	ND 10	J 2.0
Jun-04	J 0.46	ND 0.1	J 0.2	1.1	J 0.041	0.0014	3.1	ND 1	ND 0.1	ND 1	ND 10	ND 3
Jul-04	ND 0.5	ND 0.1	J 0.4	1	ND 0.25	0.0029	4.2	ND 1		J 0.4	J 2.0	J 2.4
Aug-04	1.2	ND 0.1	J 0.3	1.1	J 0.054	0.0013	4.6	1	ND 0.1	4	ND 10	ND 3
Sep-04	1.2	ND 0.1	1	1.5	0.86	0.0018	5.2	J 0.6	ND 0.1	4	ND 10	J 1.0
Oct-04	ND 0.5	0.36	ND 0.5	2.3	ND 0.25	0.0043	5.5	ND 1	ND 0.1	5.2	ND 10	ND 3.0
Nov-04	0.71	ND 0.1	0.6	2.2	ND 0.25	0.001	5	ND 1	ND 0.1	2.1	ND 10	ND 3
Dec-04	0.81	ND 0.1	0.6	3.4	ND 0.25	0.0024	4.5	ND 1	ND 0.1	14	ND 10	ND 3
Jan-05	0.58	ND 0.1	5.7	3.6	1.2	0.0082	7.3	ND 1	ND 0.1	7	ND 10	ND 3
Feb-05	ND 0.5	ND 0.1	2.6	3.3	1.6	0.0014	4.8	ND 1	ND 0.1	9	ND 10	ND 3
Mar-05	J 0.41	ND 0.1	4	2.8	1.1	0.004	5	ND 2	ND 0.1	J 7	ND 10	ND 3
Apr-05	J 0.19	ND 0.1	2.3	2.3	0.74	0.0041	3.9		ND 0.1	6	ND 10	ND 3
May-05	0.69	J 0.05	6.9	7	5.4	0.012	7.4	J 0.5	ND 0.1	22	ND 10	ND 3
Jun-05	0.58	ND 0.1	1.9	2.6	0.86	0.0026	5	ND 1	ND 0.1	11	ND 10	ND 3
Jul-05	0.54	ND 0.1	ND 0.5	1.2	J 0.05	0.0028	3.4	J 0.5	ND 0.1	J 0.9	ND 10	J 2.9
Aug-05	0.76	ND 0.1	0.6	1.0	J 0.07	0.0013	4	ND 1	ND 0.1	1	ND 10	J 1.1
Sep-05	0.74	ND 0.1	ND 0.5	1.3	J 0.17	0.013	4.7	J 0.6	ND 0.1	51	ND 10	ND 3
Oct-05	0.74	ND 0.1	ND 0.5	1.5	ND 0.25	0.0013	4.3	ND 1	ND 0.1	19	ND 10	ND 3
Nov-05	0.58	ND 0.1	0.6	1.3	J 0.1	0.0012	4	ND 1.0	ND 0.1	5	ND 10	ND 3
Dec-05	0.52	ND 0.1	J 0.4	1.7	J 0.06	0.0097	4.5	ND 1	ND 0.1	24	ND 10	ND 3
Jan-06	J 0.21	ND 0.1	2	2.1	0.38	0.0017	3.6	ND 1	ND 0.1	3	ND 10	ND 3
Feb-06	ND 0.5	ND 0.1	1.8	2.0	0.42	0.0012	3.3	ND 1	ND 0.1	2	ND 10	ND 3
Mar-06	J 0.3	ND 0.1	9.4	5.2	1.9	0.0092	10	J 0.8	ND 0.1	12	ND 10	J 1.8
Minimum	0.5	0.2	0.6	1	0.34	0.0008	2.2	1	0	1	0	0
Maximum	1.2	0.36	9.4	7	5.4	0.013	10	1	0	51	0	0

## Hardness

DATE	Lower Discharge	
	Value	Natural Log of Value
Mar-02	140	4.94
Apr-02	100	4.61
May-02	140	4.94
Jun-02	110	4.70
Jul-02	160	5.08
Aug-02	110	4.70
Sep-02		
Oct-02	100	4.61
Nov-02	220	5.39
Dec-02		
Jan-03	150	5.01
Feb-03	140	4.94
Mar-03	130	4.87
Apr-03	150	5.01
May-03	150	5.01
Jun-03	130	4.87
Jul-03	130	4.87
Aug-03	120	4.79
Sep-03		
Oct-03		
Nov-03	110	4.70
Dec-03	140	4.94
Jan-04	170	5.14
Feb-04	140	4.94
Mar-04	160	5.08
Apr-04	140	4.94
May-04	120	4.79
Jun-04	100	4.61
Jul-04	90	4.50
Aug-04	150	5.01
Sep-04	110	4.70
Oct-04	140	4.94
Nov-04	110	4.70
Dec-04	120	4.79
Jan-05	140	4.94
Feb-05	140	4.94
Mar-05	140	4.94
Apr-05	140	4.94
May-05	140	4.94
Jun-05	120	4.79
Jul-06	120	4.79
Aug-05	120	4.79
Sep-05	120	4.79
Oct-05	120	4.79
Nov-05	120	4.79
Dec-05	110	4.70
Jan-06	140	4.94
Feb-06	140	4.94
Mar-06	160	5.08
Apr-06		
Mean	132	4.871
Minimum	90	
Standard Deviation		0.165
Standard Error		0.025
Student t value		0.67449
A		4.854
Anti - log		128

## 9/26/2006

### 2-WQ Criteria

**City of Pacifica (Permit CA0038776)  
Applicable Water Quality Objectives/Criteria  
May 2006**

[illegible]

(1)	PCBs sum refers to sum of PCB 1016, 1221, 1232, 1242, 1248, 1254, and 1260
-----	--

## 2-WQ Criteria

City of Pacifica  
Data Input for RPA  
May 2006

Green highlight checks for input inconsistency (see "input check" spreadsheet for logic)  
Yellow highlights are user input

		EFFLUENT DATA					BACKGROUND DATA (B)					
CTR No.	Constituent name	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Input Check	B Available (Y/N)?	Are all B non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the Detected Maximum Background Conc (ug/L)	Input Check	
1	Antimony	Y	N		0.5		N	Y				
2	Arsenic	Y	N		1.6		N	N		12		
3	Beryllium	Y	Y	0.1			N	N			No Criteria	
4	Cadmium	Y	N		0.12		Y	N		0.36		
5a	Chromium (III)	Y	N		1		Y	N		9.4		
5b	Chromium (VI)	Y	N		6		Y	Y	2			
6	Copper	Y	N		12		Y	N		7		
7	Lead	Y	N		0.54		Y	N		5.4		
8	Mercury	Y	N		0.0377		Y	N		0.013		
9	Nickel	Y	N		5.4		Y	N		10		
10	Selenium	Y	N	1.2			Y	N		1		
11	Silver	Y	N		0.07		Y	Y	0.1			
12	Thallium	Y	N		0.2		N	N		51		
13	Zinc	Y	N		62		Y	Y	3			
14	Cyanide	Y	N		5.2		Y	Y				
15	Asbestos	N	N				N	N			No Criteria	
16	2,3,7,8 TCDD-TEQ	Y	N		1.57E-09		Y	N		0		
17	Acrolein	Y	Y	0.5			N	N				
18	Acrylonitrile	Y	Y	0.33			N	N				
19	Benzene	Y	Y	0.03			N	N				
20	Bromofom	Y	Y	0.03			N	N				
21	Carbon Tetrachloride	Y	Y	0.04			N	N				
22	Chlorobenzene	Y	Y	0.03			N	N				
23	Chlorodibromomethane	Y	Y	0.03			N	N				
24	Chloroethane	Y	Y	0.03			N	N				
25	2-Chloroethylvinyl ether	Y	Y	0.1			N	N			No Criteria	
26	Chlorofom	Y	N		0.8		N	N			No Criteria	
27	Dichlorobromomethane	Y	Y	0.04			N	N				
28	1,1-Dichloroethane	Y	Y	0.04			N	N				
29	1,2-Dichloroethane	Y	Y	0.04			N	N				
30	1,1-Dichloroethylene	Y	Y	0.06			N	N				
31	1,2-Dichloropropane	Y	Y	0.03			N	N				
32	1,3-Dichloropropylene	Y	Y	0.03			N	N				
33	Ethylbenzene	Y	Y	0.04			N	N				
34	Methyl Bromide	Y	Y	0.05			N	N			No Criteria	
35	Methyl Chloride	Y	Y	0.04			N	N				
36	Methylene Chloride	Y	Y	0.07			N	N				
37	1,1,2,2-Tetrachloroethane	Y	Y	0.04			N	N				
38	Tetrachloroethylene	Y	Y	0.06			N	N				
39	Toluene	Y	Y	0.06			N	N				
40	1,2-Trans-Dichloroethylene	Y	Y	0.05			N	N				
41	1,1,1-Trichloroethane	Y	Y	0.03			N	N			No Criteria	
42	1,1,2-Trichloroethane	Y	Y	0.05			N	N				
43	Trichloroethylene	Y	Y	0.05			N	N				
44	Vinyl Chloride	Y	Y	0.05			N	N				
45	2-Chlorophenol	Y	Y	0.4			N	N				
46	2,4-Dichlorophenol	Y	Y	0.3			N	N				
47	2,4-Dimethylphenol	Y	Y	0.3			N	N				
48	2-Methyl-4,6-Dinitrophenol	Y	Y	0.4			N	N				
49	2,4-Dinitrophenol	Y	Y	0.3			N	N				
50	2-Nitrophenol	Y	Y	0.3			N	N			No Criteria	
51	4-Nitrophenol	Y	Y	0.2			N	N			No Criteria	
52	3-Methyl-4-Chlorophenol	Y	Y	0.3			N	N			No Criteria	
53	Pentachlorophenol	Y	Y	0.4			N	N				
54	Phenol	N	N				N	N				
55	2,4,6-Trichlorophenol	Y	Y	0.2			N	N				
56	Acenaphthene	Y	Y	0.03			N	N				

City of Pacifica  
Data Input for RPA  
May 2006

CTR No.	Constituent name	EFFLUENT DATA				BACKGROUND DATA (B)				7) Review other information in the SIP page 4. If information is unavailable or insufficient, 8) the RWQCB shall establish interim monitoring requirements.	
		Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Input Check	B Available (Y/N)?	Are all B non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)		Enter the Detected Maximum Background Conc (ug/L)
57	Aceonaphthylene		Y	0.02			N				No Criteria
58	Anthracene		Y	0.03			N				
59	Benidine		Y	0.3			N				
60	Benzo(a)Anthracene		Y	0.02			N				
61	Benzo(a)Pyrene		Y	0.02			N				
62	Benzo(b)Fluoranthene		Y	0.03			N				
63	Benzo(g,h,i)Perylene		Y	0.03			N				No Criteria
64	Benzo(k)Fluoranthene		Y	0.04			N				No Criteria
65	Bis(2-Chloroethoxy)Methane		Y	0.3			N				
66	Bis(2-Chloroethyl)Ether		Y	0.3			N				
67	Bis(2-Chloroisopropyl)Ether		Y	0.3	15		N	Y	0.000	Check Input	No Criteria
68	Bis(2-Ethylhexyl)Phthalate		Y				N				
69	4-Bromophenyl Phenyl Ether		Y	0.4			N				
70	Butylbenzyl Phthalate		Y	0.4			N				
71	2-Chloronaphthalene		Y	0.3			N				
72	4-Chlorophenyl Phenyl Ether		Y	0.4			N				No Criteria
73	Chrysene		Y	0.04			N				
74	Dibenz(a,h)Anthracene		Y	0.03			N				
75	1,2-Dichlorobenzene		Y	0.03			N				
76	1,3-Dichlorobenzene		Y	0.03			N				
77	1,4-Dichlorobenzene		Y	0.04			N				
78	3,3-Dichlorobenzidine		Y	0.2			N				
79	Diethyl Phthalate		Y	0.4			N				
80	Dimethyl Phthalate		Y	0.4			N				
81	Di-n-Butyl Phthalate		Y	0.3			N				
82	2,4-Dinitrotoluene		Y	0.3			N				
83	2,6-Dinitrotoluene		Y	0.3			N				No Criteria
84	Di-n-Octyl Phthalate		Y	0.4			N				No Criteria
85	1,2-Diphenylhydrazine		Y	0.3			N				
86	Fluoranthene		Y	0.03			N				
87	Fluorene		Y	0.02			N				
88	Hexachlorobenzene		Y	0.4			N				
89	Hexachlorobutadiene		Y	0.2			N				



City of Pacifica  
Data Input for RPA  
May 2006

CTR No.	Constituent name	EFFLUENT DATA				BACKGROUND DATA (B)				Input Check	7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.
		Effluent Data Available (Y/N)?	Are all data points non-defects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Input Check	B Available (Y/N)?	Are all B non-defects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the Detected Maximum Background Conc (ug/L)	
90	Hexachlorocyclopentadiene	Y	Y	0.1			N				
91	Hexachlorobenzene	Y	Y	0.2			N				
92	Indeno(1,2,3-cd)Pyrene	Y	Y	0.03			N				
93	Isophorone	Y	Y	0.3			N				
94	Naphthalene	Y	Y	0.02			N				
95	Nitrobenzene	Y	Y	0.3			N				No Criteria
96	N-Nitrosodimethylamine	Y	Y	0.4			N				
97	N-Nitrosodi-n-Propylamine	Y	Y	0.3			N				
98	N-Nitrosodiphenylamine	Y	Y	0.4			N				
99	Phenanthrene	Y	Y	0.03			N				No Criteria
100	Pyrene	Y	Y	0.03			N				
101	1,2,4-Trichlorobenzene	Y	Y	0.3			N				No Criteria
102	Aldrin	Y	Y	0.003			N				
103	alpha-BHC	Y	Y	0.002			N				
104	beta-BHC	Y	Y	0.001			N				
105	gamma-BHC	Y	Y	0.001			N				
106	delta-BHC	Y	Y	0.001			N				No Criteria
107	Chlordane	Y	Y	0.005			N				
108	4,4-DDT	Y	Y	0.001			N				
109	4,4-DDE	Y	Y	0.001			N				
110	4,4-DDD	Y	Y	0.001			N				
111	Dieldrin	Y	Y	0.002			N				
112	alpha-Endosulfan	Y	Y	0.002			N				
113	beta-Endosulfan	Y	Y	0.001			N				
114	Endosulfan Sulfate	Y	Y	0.001			N				
115	Erdin	Y	Y	0.002			N				
116	Erdin Aldelyde	Y	Y	0.002			N				
117	Heptachlor	Y	Y	0.003			N				
118	Heptachlor Epoxide	Y	Y	0.002			N			0	
119-125	PCBs sum	Y	Y	0.03			Y	N			
126	Toxaphene	Y	Y	0.15			N				
	Tributyltin	N					N				
	Total PAHs	N					N				
	Chlorpyrifos	Y	Y	0.028			N				
	Diazin	Y	Y	0.037			N				

Notes:

**City of Pacifica (Permit CA0038776)  
Reasonable Potential Analysis Results  
May 2006**

[illegible]

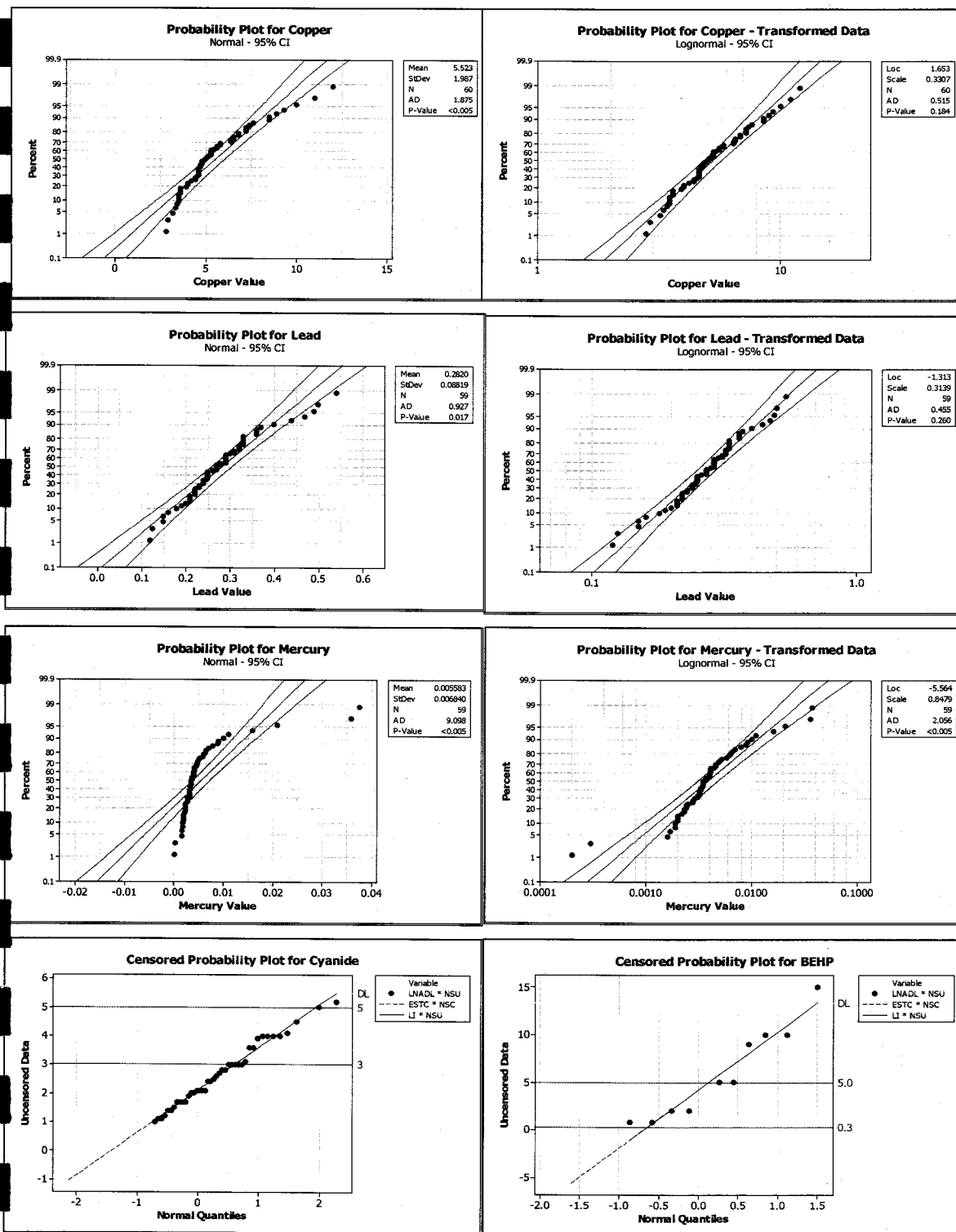
**City of Pacifica (Permit CA0038776)  
Reasonable Potential Analysis Results  
May 2006**

Engineering	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15	Step 16	Step 17	Step 18	Step 19	Step 20	Step 21	Step 22	Step 23	Step 24	Step 25	Step 26	Step 27	Step 28	Step 29	Step 30	Step 31	Step 32	Step 33	Step 34	Step 35	Step 36	Step 37	Step 38	Step 39	Step 40	Step 41	Step 42	Step 43	Step 44	Step 45	Step 46	Step 47	Step 48	Step 49	Step 50	Step 51	Step 52	Step 53	Step 54	Step 55	Step 56	Step 57	Step 58	Step 59	Step 60	Step 61	Step 62	Step 63	Step 64	Step 65	Step 66	Step 67	Step 68	Step 69	Step 70	Step 71	Step 72	Step 73	Step 74	Step 75	Step 76	Step 77	Step 78	Step 79	Step 80	Step 81	Step 82	Step 83	Step 84	Step 85	Step 86	Step 87	Step 88	Step 89	Step 90	Step 91	Step 92	Step 93	Step 94	Step 95	Step 96	Step 97	Step 98	Step 99	Step 100	Step 101	Step 102	Step 103	Step 104	Step 105	Step 106	Step 107	Step 108	Step 109	Step 110	Step 111	Step 112	Step 113	Step 114	Step 115	Step 116	Step 117	Step 118	Step 119	Step 120	Step 121	Step 122	Step 123	Step 124	Step 125	Step 126	Step 127	Step 128	Step 129	Step 130	Step 131	Step 132	Step 133	Step 134	Step 135	Step 136	Step 137	Step 138	Step 139	Step 140	Step 141	Step 142	Step 143	Step 144	Step 145	Step 146	Step 147	Step 148	Step 149	Step 150	Step 151	Step 152	Step 153	Step 154	Step 155	Step 156	Step 157	Step 158	Step 159	Step 160	Step 161	Step 162	Step 163	Step 164	Step 165	Step 166	Step 167	Step 168	Step 169	Step 170	Step 171	Step 172	Step 173	Step 174	Step 175	Step 176	Step 177	Step 178	Step 179	Step 180	Step 181	Step 182	Step 183	Step 184	Step 185	Step 186	Step 187	Step 188	Step 189	Step 190	Step 191	Step 192	Step 193	Step 194	Step 195	Step 196	Step 197	Step 198	Step 199	Step 200	Step 201	Step 202	Step 203	Step 204	Step 205	Step 206	Step 207	Step 208	Step 209	Step 210	Step 211	Step 212	Step 213	Step 214	Step 215	Step 216	Step 217	Step 218	Step 219	Step 220	Step 221	Step 222	Step 223	Step 224	Step 225	Step 226	Step 227	Step 228	Step 229	Step 230	Step 231	Step 232	Step 233	Step 234	Step 235	Step 236	Step 237	Step 238	Step 239	Step 240	Step 241	Step 242	Step 243	Step 244	Step 245	Step 246	Step 247	Step 248	Step 249	Step 250	Step 251	Step 252	Step 253	Step 254	Step 255	Step 256	Step 257	Step 258	Step 259	Step 260	Step 261	Step 262	Step 263	Step 264	Step 265	Step 266	Step 267	Step 268	Step 269	Step 270	Step 271	Step 272	Step 273	Step 274	Step 275	Step 276	Step 277	Step 278	Step 279	Step 280	Step 281	Step 282	Step 283	Step 284	Step 285	Step 286	Step 287	Step 288	Step 289	Step 290	Step 291	Step 292	Step 293	Step 294	Step 295	Step 296	Step 297	Step 298	Step 299	Step 300	Step 301	Step 302	Step 303	Step 304	Step 305	Step 306	Step 307	Step 308	Step 309	Step 310	Step 311	Step 312	Step 313	Step 314	Step 315	Step 316	Step 317	Step 318	Step 319	Step 320	Step 321	Step 322	Step 323	Step 324	Step 325	Step 326	Step 327	Step 328	Step 329	Step 330	Step 331	Step 332	Step 333	Step 334	Step 335	Step 336	Step 337	Step 338	Step 339	Step 340	Step 341	Step 342	Step 343	Step 344	Step 345	Step 346	Step 347	Step 348	Step 349	Step 350	Step 351	Step 352	Step 353	Step 354	Step 355	Step 356	Step 357	Step 358	Step 359	Step 360	Step 361	Step 362	Step 363	Step 364	Step 365	Step 366	Step 367	Step 368	Step 369	Step 370	Step 371	Step 372	Step 373	Step 374	Step 375	Step 376	Step 377	Step 378	Step 379	Step 380	Step 381	Step 382	Step 383	Step 384	Step 385	Step 386	Step 387	Step 388	Step 389	Step 390	Step 391	Step 392	Step 393	Step 394	Step 395	Step 396	Step 397	Step 398	Step 399	Step 400	Step 401	Step 402	Step 403	Step 404	Step 405	Step 406	Step 407	Step 408	Step 409	Step 410	Step 411	Step 412	Step 413	Step 414	Step 415	Step 416	Step 417	Step 418	Step 419	Step 420	Step 421	Step 422	Step 423	Step 424	Step 425	Step 426	Step 427	Step 428	Step 429	Step 430	Step 431	Step 432	Step 433	Step 434	Step 435	Step 436	Step 437	Step 438	Step 439	Step 440	Step 441	Step 442	Step 443	Step 444	Step 445	Step 446	Step 447	Step 448	Step 449	Step 450	Step 451	Step 452	Step 453	Step 454	Step 455	Step 456	Step 457	Step 458	Step 459	Step 460	Step 461	Step 462	Step 463	Step 464	Step 465	Step 466	Step 467	Step 468	Step 469	Step 470	Step 471	Step 472	Step 473	Step 474	Step 475	Step 476	Step 477	Step 478	Step 479	Step 480	Step 481	Step 482	Step 483	Step 484	Step 485	Step 486	Step 487	Step 488	Step 489	Step 490	Step 491	Step 492	Step 493	Step 494	Step 495	Step 496	Step 497	Step 498	Step 499	Step 500	Step 501	Step 502	Step 503	Step 504	Step 505	Step 506	Step 507	Step 508	Step 509	Step 510	Step 511	Step 512	Step 513	Step 514	Step 515	Step 516	Step 517	Step 518	Step 519	Step 520	Step 521	Step 522	Step 523	Step 524	Step 525	Step 526	Step 527	Step 528	Step 529	Step 530	Step 531	Step 532	Step 533	Step 534	Step 535	Step 536	Step 537	Step 538	Step 539	Step 540	Step 541	Step 542	Step 543	Step 544	Step 545	Step 546	Step 547	Step 548	Step 549	Step 550	Step 551	Step 552	Step 553	Step 554	Step 555	Step 556	Step 557	Step 558	Step 559	Step 560	Step 561	Step 562	Step 563	Step 564	Step 565	Step 566	Step 567	Step 568	Step 569	Step 570	Step 571	Step 572	Step 573	Step 574	Step 575	Step 576	Step 577	Step 578	Step 579	Step 580	Step 581	Step 582	Step 583	Step 584	Step 585	Step 586	Step 587	Step 588	Step 589	Step 590	Step 591	Step 592	Step 593	Step 594	Step 595	Step 596	Step 597	Step 598	Step 599	Step 600	Step 601	Step 602	Step 603	Step 604	Step 605	Step 606	Step 607	Step 608	Step 609	Step 610	Step 611	Step 612	Step 613	Step 614	Step 615	Step 616	Step 617	Step 618	Step 619	Step 620	Step 621	Step 622	Step 623	Step 624	Step 625	Step 626	Step 627	Step 628	Step 629	Step 630	Step 631	Step 632	Step 633	Step 634	Step 635	Step 636	Step 637	Step 638	Step 639	Step 640	Step 641	Step 642	Step 643	Step 644	Step 645	Step 646	Step 647	Step 648	Step 649	Step 650	Step 651	Step 652	Step 653	Step 654	Step 655	Step 656	Step 657	Step 658	Step 659	Step 660	Step 661	Step 662	Step 663	Step 664	Step 665	Step 666	Step 667	Step 668	Step 669	Step 670	Step 671	Step 672	Step 673	Step 674	Step 675	Step 676	Step 677	Step 678	Step 679	Step 680	Step 681	Step 682	Step 683	Step 684	Step 685	Step 686	Step 687	Step 688	Step 689	Step 690	Step 691	Step 692	Step 693	Step 694	Step 695	Step 696	Step 697	Step 698	Step 699	Step 700	Step 701	Step 702	Step 703	Step 704	Step 705	Step 706	Step 707	Step 708	Step 709	Step 710	Step 711	Step 712	Step 713	Step 714	Step 715	Step 716	Step 717	Step 718	Step 719	Step 720	Step 721	Step 722	Step 723	Step 724	Step 725	Step 726	Step 727	Step 728	Step 729	Step 730	Step 731	Step 732	Step 733	Step 734	Step 735	Step 736	Step 737	Step 738	Step 739	Step 740	Step 741	Step 742	Step 743	Step 744	Step 745	Step 746	Step 747	Step 748	Step 749	Step 750	Step 751	Step 752	Step 753	Step 754	Step 755	Step 756	Step 757	Step 758	Step 759	Step 760	Step 761	Step 762	Step 763	Step 764	Step 765	Step 766	Step 767	Step 768	Step 769	Step 770	Step 771	Step 772	Step 773	Step 774	Step 775	Step 776	Step 777	Step 778	Step 779	Step 780	Step 781	Step 782	Step 783	Step 784	Step 785	Step 786	Step 787	Step 788	Step 789	Step 790	Step 791	Step 792	Step 793	Step 794	Step 795	Step 796	Step 797	Step 798	Step 799	Step 800	Step 801	Step 802	Step 803	Step 804	Step 805	Step 806	Step 807	Step 808	Step 809	Step 810	Step 811	Step 812	Step 813	Step 814	Step 815	Step 816	Step 817	Step 818	Step 819	Step 820	Step 821	Step 822	Step 823	Step 824	Step 825	Step 826	Step 827	Step 828	Step 829	Step 830	Step 831	Step 832	Step 833	Step 834	Step 835	Step 836	Step 837	Step 838	Step 839	Step 840	Step 841	Step 842	Step 843	Step 844	Step 845	Step 846	Step 847	Step 848	Step 849	Step 850	Step 851	Step 852	Step 853	Step 854	Step 855	Step 856	Step 857	Step 858	Step 859	Step 860	Step 861	Step 862	Step 863	Step 864	Step 865	Step 866	Step 867	Step 868	Step 869	Step 870	Step 871	Step 872	Step 873	Step 874	Step 875	Step 876	Step 877	Step 878	Step 879	Step 880	Step 881	Step 882	Step 883	Step 884	Step 885	Step 886	Step 887	Step 888	Step 889	Step 890	Step 891	Step 892	Step 893	Step 894	Step 895	Step 896	Step 897	Step 898	Step 899	Step 900	Step 901	Step 902	Step 903	Step 904	Step 905	Step 906	Step 907	Step 908	Step 909	Step 910	Step 911	Step 912	Step 913	Step 914	Step 915	Step 916	Step 917	Step 918	Step 919	Step 920	Step 921	Step 922	Step 923	Step 924	Step 925	Step 926	Step 927	Step 928	Step 929	Step 930	Step 931	Step 932	Step 933	Step 934	Step 935	Step 936	Step 937	Step 938	Step 939	Step 940	Step 941	Step 942	Step 943	Step 944	Step 945	Step 946	Step 947	Step 948	Step 949	Step 950	Step 951	Step 952	Step 953	Step 954	Step 955	Step 956	Step 957	Step 958	Step 959	Step 960	Step 961	Step 962	Step 963	Step 964	Step 965	Step 966	Step 967	Step 968	Step 969	Step 970	Step 971	Step 972	Step 973	Step 974	Step 975	Step 976	Step 977	Step 978	Step 979	Step 980	Step 981	Step 982	Step 983	Step 984	Step 985	Step 986	Step 987	Step 988	Step 989	Step 990	Step 991	Step 992	Step 993	Step 994	Step 995	Step 996	Step 997	Step 998	Step 999	Step 1000	Step 1001	Step 1002	Step 1003	Step 1004	Step 1005	Step 1006	Step 1007	Step 1008	Step 1009	Step 1010	Step 1011	Step 1012	Step 1013	Step 1014	Step 1015	Step 1016	Step 1017	Step 1018	Step 1019	Step 1020	Step 1021	Step 1022	Step 1023	Step 1024	Step 1025	Step 1026	Step 1027	Step 1028	Step 1029	Step 1030	Step 1031	Step 1032	Step 1033	Step 1034	Step 1035	Step 1036	Step 1037	Step 1038	Step 1039	Step 1040	Step 1041	Step 1042	Step 1043	Step 1044	Step 1045	Step 1046	Step 1047	Step 1048	Step 1049	Step 1050	Step 1051	Step 1052	Step 1053	Step 1054	Step 1055	Step 1056	Step 1057	Step 1058	Step 1059	Step 1060	Step 1061	Step 1062	Step 1063	Step 1064	Step 1065	Step 1066	Step 1067	Step 1068	Step 1069	Step 1070	Step 1071	Step 1072	Step 1073	Step 1074	Step 1075	Step 1076	Step 1077	Step 1078	Step 1079	Step 1080	Step 1081	Step 1082	Step 1083	Step 1084	Step 1085	Step 1086	Step 1087	Step 1088	Step 1089	Step 1090	Step 1091	Step 1092	Step 1093	Step 1094	Step 1095	Step 1096	Step 1097	Step 1098	Step 1099	Step 1100	Step 1101	Step 1102	Step 1103	Step 1104	Step 1105	Step 1106	Step 1107	Step 1108	Step 1109	Step 1110	Step 1111	Step 1112	Step 1113	Step 1114	Step 1115	Step 1116	Step 1117	Step 1118	Step 1119	Step 1120	Step 1121	Step 1122	Step 1123	Step 1124	Step 1125	Step 1126	Step 1127	Step 1128	Step 1129	Step 1130	Step 1131	Step 1132	Step 1133	Step 1134	Step 1135	Step 1136	Step 1137	Step 1138	Step 1139	Step 1140	Step 1141	Step 1142	Step 1143	Step 1144	Step 1145	Step 1146	Step 1147	Step 1148	Step 1149	Step 1150	Step 1151	Step 1152	Step 1153	Step 1154	Step 1155	Step 1156	Step 1157	Step 1158	Step 1159	Step 1160	Step 1161	Step 1162	Step 1163	Step 1164	Step 1165	Step 1166	Step 1167	Step 1168	Step 1169	Step 1170	Step 1171	Step 1172	Step 1173	Step 1174	Step 1175	Step 1176	Step 1177	Step 1178	Step 1179	Step 1180	Step 1181	Step 1182	Step 1183	Step 1184	Step 1185	Step 1186	Step 1187	Step 1188	Step 1189	Step 1190	Step 1191	Step 1192	Step 1193	Step 1194	Step 1195	Step 1196	Step 1197	Step 1198	Step 1199	Step 1200	Step 1201	Step 1202	Step 1203	Step 1204	Step 1205	Step 1206	Step 1207	Step 1208	Step 1209	Step 1210	Step 1211	Step 1212	Step 1213	Step 1214	Step 1215	Step 1216	Step 1217	Step 1218	Step 1219	Step 1220	Step 1221	Step 1222	Step 1223	Step 1224	Step 1225	Step 1226	Step
-------------	--------	--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	------

Calculation of Coefficients of Variation

1	Copper (CTR 6)				Mercury (CTR 8)				Cyanide (CTR 14)				Dioxin-TEQ (CTR 16-TEQ)				Bis-2 Ethyl Hexyl Phthalate (CTR 68)				Lead (CTR 7)				
	Date	Qual	Value	Calc Value	Date	Qual	Value	Calc Value	Date	Qual	Value	Calc Value	Date	Qual	Value	Calc Value	Date	Qual	Value	Calc Value	Date	Qual	Value	Calc Value	
3	8/22/2002	2.8	1.02819417	0.005	4/9/2001	ND	0.01	0.005	3/5/2001	ND	3	1.5	2/12/2002	0.00	0.00E+00	0.00	2/13/2001	ND	0.3	0.15	9/11/2001	ND	0.25	0.125	-2.079441542
4	4/8/2004	2.9	1.06471037	0.002	5/6/2001	J	0.002	0.001	6/4/2001	ND	3	1.5	2/18/2003	0.00	0.00E+00	0.00	2/12/2001	ND	5	2.5	1/1/2005	J	0.12	0.12	-2.120263536
5	5/14/2004	3.2	1.16315981	0.003	1/1/2003	ND	0.003	0.002	8/7/2001	ND	3	1.5	2/19/2004	0.00	0.00E+00	0.00	2/12/2004	ND	5	2.5	12/9/2003	J	0.15	0.15	-1.697119985
6	8/2/2001	3.3	1.183922488	0.003	10/9/2001	J	0.003	0.003	9/18/2001	ND	3	1.5	2/9/2005	0.00	0.00E+00	0.00	8/9/2005	J	0.8	0.8	4/15/2003	J	0.18	0.18	-1.714788428
7	10/22/2002	3.4	1.22375432	0.006	1/12/2003	ND	0.006	0.006	12/25/2001	ND	3	1.5	7/24/2001	0.00157	1.57E-08	0.00157	8/12/2005	J	0.8	0.8	1/13/2004	J	0.19	0.19	-1.680731207
8	2/12/2002	3.5	1.252762988	0.007	11/11/2003	ND	0.007	0.007	8/18/2002	ND	3	1.5	% ND				7/25/2001	J	2	2	1/13/2003	J	0.2	0.2	-1.609437912
9	1/11/2005	3.5	1.252762988	0.009	4/15/2003	ND	0.009	0.009	8/20/2002	ND	3	1.5	80%				2/12/2002	J	5	5	4/12/2005	J	0.21	0.21	-1.580647748
10	1/12/2005	3.5	1.252762988	0.009	9/10/2003	ND	0.009	0.009	1/19/2002	ND	3	1.5	Average				2/13/2002	J	5	5	7/12/2005	J	0.21	0.21	-1.580647748
11	9/17/2002	3.6	1.252762988	0.002	3/19/2002	ND	0.002	0.002	8/12/2003	ND	3	1.5	Stand Dev				7/24/2001	J	2	2	1/10/2006	J	0.21	0.21	-1.580647748
12	12/6/2003	3.6	1.260933845	0.002	5/13/2003	ND	0.002	0.002	9/9/2003	ND	3	1.5	0.6				8/10/2004	J	9	9	1/15/2002	J	0.22	0.22	-1.51427733
13	4/12/2005	3.6	1.260933845	0.002	7/8/2003	ND	0.002	0.002	6/8/2004	ND	3	1.5					2/18/2003	J	10	10	3/8/2005	J	0.22	0.22	-1.51427733
14	10/1/2005	3.9	1.360976553	0.002	11/12/2006	ND	0.002	0.002	4/12/2005	ND	3	1.5					2/19/2003	J	10	10	10/11/2005	J	0.22	0.22	-1.51427733
15	1/13/2004	4	1.386294361	0.003	10/7/2003	ND	0.003	0.003	1/9/2001	ND	5	2.5					2/9/2005	J	15	15	12/13/2005	J	0.22	0.22	-1.51427733
16	1/13/2004	4	1.386294361	0.003	3/8/2004	ND	0.003	0.003	4/9/2001	ND	5	2.5													
17	8/9/2005	4.2	1.435084525	0.004	2/12/2004	ND	0.004	0.004	5/7/2001	ND	5	2.5													
18	12/19/2001	4.4	1.481604541	0.002	4/7/2005	ND	0.002	0.002	7/16/2001	ND	5	2.5													
19	5/11/2004	4.4	1.481604541	0.005	4/8/2004	ND	0.005	0.005	10/9/2001	ND	5	2.5													
20	6/8/2004	4.5	1.590477397	0.002	1/5/2002	ND	0.002	0.002	5/4/2002	J	1	1													
21	11/8/2001	4.6	1.590477397	0.002	10/22/2002	ND	0.002	0.002	5/18/2002	J	1	1													
22	1/15/2002	4.6	1.526059303	0.002	11/8/2001	ND	0.002	0.002	3/9/2004	J	1	1													
23	3/19/2002	4.6	1.526059303	0.002	12/18/2001	ND	0.002	0.002	3/9/2004	J	1	1													
24	2/10/2004	4.6	1.526059303	0.003	12/18/2001	ND	0.003	0.003	3/9/2004	J	1	1													
25	8/12/2005	4.6	1.526059303	0.003	2/18/2003	ND	0.003	0.003	12/17/2002	J	1	1													
26	7/12/2005	4.6	1.526059303	0.003	2/10/2004	ND	0.003	0.003	3/8/2005	J	1	1													
27	11/11/2003	4.7	1.547562509	0.003	4/12/2005	ND	0.003	0.003	7/16/2002	J	1	1													
28	12/13/2005	4.7	1.547562509	0.003	8/7/2001	ND	0.003	0.003	1/15/2002	J	1	1													
29	4/9/2001	4.8	1.58615918	0.003	12/9/2003	J	0.003	0.003	2/12/2002	J	1	1													
30	9/9/2001	4.8	1.58615918	0.003	10/7/2003	J	0.003	0.003	10/7/2003	J	1	1													
31	11/12/2005	4.8	1.58615918	0.004	12/12/2002	ND	0.004	0.004	1/13/2004	J	1	1													
32	3/9/2005	4.9	1.686325205	0.003	7/16/2002	ND	0.003	0.003	3/13/2003	J	1	1													
33	3/9/2001	5	1.696437812	0.003	8/10/2004	J	0.003	0.003	3/19/2002	J	2	2													
34	8/12/2003	5.1	1.62924054	0.003	6/8/2004	ND	0.003	0.003	8/10/2004	J	2	2													
35	12/7/2004	5.1	1.62924054	0.003	11/15/2005	ND	0.003	0.003	10/22/2002	J	2	2													
36	9/11/2001	5.3	1.667706821	0.003	12/13/2005	ND	0.003	0.003	12/9/2002	J	2	2													
37	12/17/2002	5.3	1.667706821	0.003	2/10/2004	ND	0.003	0.003	2/10/2004	J	2	2													
38	7/6/2003	5.3	1.667706821	0.004	10/11/2005	ND	0.004	0.004	2/10/2004	J	2	2													
39	10/26/2004	5.3	1.667706821	0.004	3/5/2001	ND	0.004	0.004	1/10/2008	J	2	2													
40	10/7/2003	5.4	1.667706821	0.004	8/12/2002	ND	0.004	0.004	1/10/2008	J	2	2													
41	1/9/2001	5.6	1.722766588	0.004	12/13/2005	J	0.004	0.004	12/13/2005	J	2	2													
42	5/10/2005	5.6	1.722766588	0.004	9/11/2001	ND	0.004	0.004	9/28/2004	J	2	2													
43	10/9/2001	5.8	1.757857918	0.004	8/20/2002	ND	0.004	0.004	5/8/2005	J	2	2													
44	5/14/2002	5.8	1.757857918	0.004	6/4/2001	ND	0.004	0.004	4/8/2004	J	2	2													
45	2/5/2001	6.4	1.85623799	0.004	3/11/2003	ND	0.004	0.004	4/8/2004	J	2	2													
46	8/18/2002	6.4	1.85623799	0.004	9/9/2003	ND	0.004	0.004	11/6/2001	J	2	2													
47	7/16/2002	6.5	1.871802177	0.004	1/11/2005	ND	0.004	0.004	9/17/2002	J	3	3													
48	3/13/2003	6.5	1.871802177	0.005	5/10/2005	ND	0.005	0.005	4/15/2003	J	3	3													
49	6/4/2001	6.8	1.916922612	0.005	6/18/2002	ND	0.005	0.005	7/8/2003	J	3	3													
50	9/28/2004	6.8	1.916922612	0.005	3/8/2005	ND	0.005	0.005	5/11/2004	J	3	3													
51	1/13/2003	7.2	1.974081028	0.006	7/13/2004	ND	0.006	0.006	11/1/2005	J	3	3													
52	6/10/2003	7.2	1.974081028	0.006	9/6/2005	ND	0.006	0.006	12/7/2004	J	3	3													
53	1/19/2004	7.2	1.974081028	0.007	9/6/2005	ND	0.007	0.007	11/15/2005	J	3	3													
54	5/13/2003	7.4	2.00148	0.007	11/23/2004	ND	0.007	0.007	11/9/2005	J	3	3													
55	2/6/2005	7.6	2.028148247	0.008	7/18/2005	ND	0.008	0.008	8/10/2003	J	4	4													
56	7/10/2001	8.5	2.14068163	0.009	10/12/2004	ND	0.009	0.009	11/11/2003	J	4	4													
57	2/18/2003	8.5	2.14068163	0.011	8/24/2004	ND	0.011	0.011	10/11/2005	J	4	4													
58	4/15/2003	8.8	2.186051277	0.016	9/4/2004	ND	0.016	0.016	10/11/2005	J	4	4													
59	3/6/2001	9.3	2.302585083	0.021	2/20/2005	ND	0.021	0.021	6/7/2005	J	4	4													
60	9/12/2004	10	2.302585083	0.036	2/5/2001	ND	0.036	0.036	2/9/2005	J	5	5													
61	7/13/2004	11	2.397895273	0.037	1/9/2001	ND	0.037	0.037	2/5/2001	J	5	5													
62	8/10/2004	12	2.48490865	0.037	2/4/2005	ND	0.037	0.037	5/10/2005	J	5	5													
63	% ND			3%	% ND			3%	% ND		29%	71%</													

# Probability Plots of Data from CV Calculator Sheet



Descriptive Statistics: ESTIMATE - Cyanide  
Variable N \* Mean SE Mean StDev Minimum Q1 Median Q3 Maximum  
ESTIMATE 59 0 2.102 0.185 1.418 -1.053 1.100 2.100 3.000 5.200

Descriptive Statistics: ESTIMATE - BEHP  
Variable N \* Mean SE Mean StDev Minimum Q1 Median Q3 Maximum  
ESTIMATE 13 0 4.20 1.55 5.57 -5.59 0.80 2.00 9.50 15.00

**Notes:**  
Probability plots are used to determine if the data best fits a normal or lognormal distribution.  
The plot which yields the lower Anderson Darling (AD) coefficient and/or the greater Pearson Correlation Coefficient (P-value) is determined to be the "Best Fit" distribution.  
Censored probability plots for Cyanide and Bis(2-Ethylhexyl)Phthalate (BEHP) are produced by eliminating (censoring) the non-detected samples.  
Mean = Average of samples  
StDev = Standard Deviation of samples  
N = Number of samples

## 9/26/2006

[illegible]

City of Pacifica (Permit CA0038776)  
Compliance Feasibility Analysis  
May 2006

CTR No.	Analyte	Number of Samples	Percent ND	Lowest Criteria (ug/L)	MEC (ug/L)	Background Maximum Concentration (ug/L)	Reason	Best Fit Distribution	Sample Mean	Sample Standard Deviation	95 <sup>th</sup> vs. AMEL	98 <sup>th</sup> vs. MDEL	Mean vs. LTA	Feasible to Comply?	Limit from Previous Permit and Type, if Available <sup>(4)</sup>	Interim Limit (PBEL) <sup>(6)</sup> If Necessary
6	Copper	60	0%	11.5	12	7	MEC > C [12,000 ug/l vs 11,520 ug/l]	Log-Normal	1,653	0.331	9.0 < 10.2	11.3 < 16.4	5.5 < 7.7	Yes	9.3	
7	Lead	59	2%	4.4	0.54	5.4	B > C [5,400 ug/l vs 4,356 ug/l]	Log-Normal	-1,313	0.314	0.45 < 3.9	0.6 < 6.0	0.28 < 3.072	Yes	3.2	
8	Mercury	59	3%	0.025	0.0377	0.013	MEC > C [0.038 ug/l vs 0.025 ug/l]	Log-Normal	-5,564	0.848	0.0155 < 0.0170	0.0276 < 0.0462	0.0056 < 0.0079	Yes	0.025	
14	Cyanide	59	28%	5.2	5.2	ND	MEC > C [5,200 ug/l vs 5,200 ug/l]	Normal	2.10	1.42	4.4 < 5	5.4 < 8.4	2.1 < 3.2	Yes	5.2	
68	Bis(2-Ethylhexyl)Phthalate	13	23%	5.9	15	None available	MEC > C [15,000,000 ug/l vs 5,900,000 ug/l]	Normal	4.2	5.57	13.4 > 6	17.2 > 14		No		20.9 <sup>(3)</sup>

Notes: Effluent data for the RPA is from January 2001 to January 2006. Background data was supplied by the City of Pacifica for three discharge sampling locations. Data from the "upper discharge" sampling location was used for background data.

All values in ug/L.

When results for an analyte are found to be log-normally distributed, the sample mean and standard deviation are expressed using transformed (natural log conversion) data. The 95<sup>th</sup>, 98<sup>th</sup>, and PBEL values have been converted back into real concentrations.

The mean of non-transformed data is compared to LTA, since it is the best estimate of a true average. Converting the transformed mean back to the original scale will not accurately estimate the true average, because of transformation bias.

Mean and standard deviation values for Cyanide and Bis(2-Ethylhexyl)Phthalate are calculated with using Minitab macro "mdlnorm2".

n/a Not applicable. Not enough data to calculate.

ND Not detected in background data

(1) No comparison possible. Not enough data.

(2) No LTA for this analyte.

(3) Previous permit did not include effluent limits for this pollutant.

(4) Previous limits from Pacifica NPDES Permit are Maximum Daily Effluent Limitations

(5) As the previous permit did not include an effluent limitation for dioxin-TEQ and there is insufficient data to calculate an interim limit for this pollutant, the Regional Board's position regarding these circumstances is to include only a final limitation for dioxin-TEQ in the reissued permit.

(6) Based on the 99.87 percentile performance level (i.e., the 99.87 percentile of observed effluent concentrations)

## **ATTACHMENT G – STANDARD PROVISIONS AND REPORTING REQUIREMENTS**

The Standard Provisions and Reporting Requirements, August 1993, are part of this Order but are not physically attached due to volume. They are available on the Internet at:

<http://www.waterboards.ca.gov/sanfranciscobay/Download.htm>.

- Letter of August 6, 2001 from the Regional Water Board to all Dischargers, Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy
- Resolution 74-10, Policy Regarding Waste Discharger's Responsibility to Develop and implement Contingency Plans to Assure Continuous Operation of facilities for the Collection, Treatment, and Disposal of Waste.
- Self-Monitoring Program Part A (August 1993)
- Standard Provisions and Reporting Requirements for NPDES Surface Water Dischargers (August 1993)